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THE

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A Weekly Journal of Medicine, Surgery, Public Health and of General Medical Intelligence.

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Vol. XXXI.] CALCUTTA, MONDAY, APRIL 13th, 1908. [No. 15

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Qui docet, discit

STENOSIS PYLORI CONGENITA.

By Herman B. Sheffield, M.D.

Stenosis of the pylorus may be complete or partial. Complete atresia is extremely rare and invariably fatal within a few days after birth—before the diagnosis can be established.

Partial stenosis of the Pylorus, on the other hand, is a comparatively frequent affection which not rarely terminates in recovery, either spontaneously or through medical and surgical treatment. It is distinguishable in two forms: True and False.

1. True or hypertrophic pyloric stenosis is invariably due to a congenital narrowing of the lumen of the pylorus and is associated with more or less primary hypertrophy of the pyloric ring.

2. False or spastic pyloric stenosis (pylorospasm) is the result of congenital faulty inervation of the stomach, or of acquired digestive and nervous disturbance. It is free from primary hypertrophy of the pyloric ring. Sooner or later secondary hypertrophy of the muscular and mucous coats of the stomach occurs in consequence of the increased force required by the stomach to propel the ingesta. At a later stage of the disease the stomach walls lose their tonicity and dilatation is a frequent complication.

The diagnosis of pyloric stenosis usually presents no difficulty, and it can readily be distinguished from atresia of the esophagus or duodenum by bearing in mind the typical clinical picture of the disease. The apparently fully developed infant at birth, after a period of well-being of from a half to three weeks begins to vomit sometimes after each feeding. The vomiting rapidly becomes very violent in character, and the contents of the stomach which appears greater (Ischochymia,—retention of digested food) than the child could have taken in one feeding and consists of a hyperacid mixture of mucus digested and undigested food, free from bile, is explosively ejected. As an immediate result of the vomiting, the intestinal tract remains empty, hence, pseudoconstipation or only occasional evacuation of a small quantity of brown, foul-smelling fluid. The urine is scanty and concentrated. The infant acts very hungry, voraciously swallows a few mouthfuls of food, but being seized by sudden spasmodic pain, drops bottle or breast, only to grasp it again after some relief prevails. The abdomen is sunken in, while the epigastrium is distended, and here and there are visible peristaltic movements hyperkinesis) of the stomach, from right to left. In some cases a tumor—the hypertrophied pylorus—is palpable a little to the right of the stomach, and in cases of long standing, there is usually more or less marked gastric dilatation.

In pylorospasm the symptoms are much less pronounced, but otherwise cannot be distinguished from true pyloric stenosis. The course of the affection varies with the degree of the contracture. In the majority of instances the true form of the disease, if not operated upon early, terminates fatally in from four weeks to four months, with symptoms of inanition and collapse. Occasionally, however, a change for the better occurs and slow recovery follows. This is particularly apt to take place in spastic pyloric stenosis, especially if early and properly treated. With these facts in view, it is extremely difficult to decide when, and whether, surgical intervention is indicated. The profession is greatly divided on this question. The statistics adduced for and against an operation seem to favor both contentions. The surgical "cures" do not always assure us of their permanency. On the other hand, who can vouch for the permanency (remissions are not rare!) of the medicinal "cures," and for the correctness of the diagnosis in such cases! Appreciating, then, the gravity of the prognosis of true pyloric stenosis even under the best medical management, and the recent grand achievment in stomach surgery, it is justifiable after two week's faithful but unsucessful trial of dietetic and medicinal measures to recommend an operation, namely:

1. In bottle-fed infants presenting the usual symptoms of pyloric stenosis, plus-pylorus-tumor.

2. In breast-fed infants presenting the usual symptoms of pyloric stenosis, even minus palpable pylorus tumor.

An operation, if indicated, should not be delayed until the child is at death's door. The choice between divulsion (Loreta's) pyloroplasty and gastroenterostomy depends upon the pathological condition of each individual case.

The non-surgical treatment of congenital pyloric stenosis must be carried out systematically and faithfully. Whenever possible, the infant should be fed on woman's milk, preferably with a spoon or tube, in order to gage the amount of food consumed and possibly retained by the infant. The amount of each feeding should not exceed one ounce, but may be given every hour, so as to sustain the child's vitality. Modified or predigested milk may be administered instead of woman's milk if the latter is not readily obtainable. In view of the fact that almost two-thirds of the cases of pyloric stenosis thus far reported were breast-fed babies, one is tempted to recommend cows' milk feeding as a therapeutic or, at least, prophylactic measure against pyloric stenosis. Indeed, following the temptation in one of my own cases (see further) I was—perhaps accidentally—rewarded by happy results. May I venture to suggest that the large curd of cows' milk tends mechanically to dilate the contracted pyloric orifice?

Reduction in the frequency of the attacks of vomiting and in the amount ejected forms the first and best indication of improvement in the condition. Next to careful feeding, systematic washing of the child's stomach serves as the sheet anchor in the therapeusis of congenital poloric stenosis. It should be practiced at least twice a day with plain, cool (60° to 70° F.) water, occasionally adding a small amount of bicarbonate of soda to neutralise the hyperacidity of the stomach. The washing should be continued until the water returns clear. The effect of the lavage is the removal of decomposing substances from the stomach, arrest of fermentation and allayment of pain and spasm. For the latter purposes prolonged warm baths and hot compresses to the epigastric region are also very useful. To counteract the excesselve loss of fluids, a daily enterocIysis or hypodermoclysis is of advantage. Internal medication is of little value except anodynes for the relief of pain. For this purpose minute doses of codeine with or without belladonna may be administered in the form of suppositories.

Skillful nursing privately or in hospital should be insisted upon.

L. F. at present fifteen months old and twenty two pounds in weight. It was normal at birth. The following day it began to vomit and cry. As usual the mother, to quiet the baby, applied it to her breast as often as it cried and although the infant appeared to be very hungry, it drank but very little and cried so much the more. In the first few days it passed the meconium but had no movement for the following four days and continued having a small passage every four or five days until it came under my observation. It was then eleven weeks old and weighed three and a half pounds. It was skin and bones. The symptoms of pylorus stenosis were all there except the palpable tumor. The child had gone the rounds from physician to physician, was washed and bathed, medicated and irrigated, but was—as was to be expected—conscientiously fed on breast milk. As I had to make some change in the treatment, I decided to make it in the feeding. I put the child on modified milk (Fat 4 Sugar 7, Proteids 1.25) a tablespoonful every hour, while awake. It kept on this and miserable for about a week, but gradually the vomiting ceased, the other symptoms subsided, the child gained in weight, and when five months old was apparently in perfect health.—THE POST GRADUATE

WHAT A FEATHER BED DOES.

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"The skin, like the lungs, is continually breathing, and is very sensitive to external influences. Hence arises the need for air baths as well as for water baths. The entire body should be exposed to fresh air every day for as long a time as you can make possible, and all beds should be thoroughly ventilated."

VEGETABLES.

An eminent physician who has been investigating the properties of the different kinds of vegetables, announces that a diet of carrots ameliorates harshness of character and reduces nervous irritation; peas create fatty tissue and encourage joyousness, while turnips have an opposite effect. Celery taken in excess may be beneficial in pulmonary ailments, and lettuce aids as a mild sedative, owing to the composition of its juice, which also keeps the skin clear and fresh.

RUPTURE OF THE GENITAL CANAL DURING LABOUR.

By H. T. Hicks, F.R.C.S., Eng.

Rupture of the genital canal, though fortunately rare, is one of the most disastrous accidents which can overtake a woman in labour. In the Guy's Charity, intra-peritoneal rupture has occurred only twice in the last 4 years and during this period no less than 16,000 deliveries have taken place.

Rupture of the uterus is described in the text-books as being of two main varieties, viz.—complete and incomplete. It seems to me that the terms extra-peritoneal and intra-peritoneal rupture convey a better meaning, because so much depends upon the condition of the peritoneum in relation to the rupture.

I have collected 17 cases of rupture of the uterus, admitted into Guy's during the last 20 years, and 8 of these I have seen personally. Out of the whole number, 14 were intra-peritoneal and 3 extra-peritoneal. Of the 14, the rupture was spontaneous in 6, in 8 it followed delivery by version. In 2 of the latter the rupture was peritoneal only.

In 2 the pelvis was moderately contracted, but in none were the signs and symptoms of threatened rupture of the uterus apparently present. Two out of the 17 were primigravidæ, while the rest were multiparous. Only one case survived intra-peritoneal rupture and 2 out of the 3 with extra-peritoneal lesions recovered. No doubt this high mortality was, in some measure, due to the fact that the majority of the cases, some of whom had come from a distance, were in a desperate condition when admitted. Dr Herbert Spencer, in a paper read before the Obstetrical Society of the London (Obst. Soc. Trans., 1900), recorded 4 cases of rupture of the uterus, which were treated by plugging the rent with gauze, resulting in recovery, but only 2 of these were intra-peritoneal. In the discussion which followed, Dr. Horrocks spoke of 2 cases of intra-peritoneal rupture, followed by recovery, and Dr Drummond Robinson added yet another case. These recoveries were intra-peritoneal ruptures, in which the fœtus had been delivered. No one recorded a case of recovery when the fœtus had passed through the rent into the abdominal cavity, but Dr. Munroe Kerr has lately published a case, which ended in recovery, in which the fœtus passed through the rent into the abdominal cavity. The abdomen was opened, the fœtus and placenta removed, and hysterectomy performed (B.M.J., August 24, 1907, page 445).

In comparison with intra-peritoneal rupture, an extra-peritoneal lesion must rank as one of the minor injuries of the genital canal during labour, for its treatment is simple and the prognosis good.

Intra-peritoneal Rupture.—It is important to recognise that there are two distinct forms of intra peritoneal rupture, viz.:—(a) "Rupture without delivery of the fœtus," which is spontaneous, and, as a rule, quite independent of any manipulative interference; (b) "Rupture with delivery of the fœtus," which almost invariably follows delivery by version, or some other form of forcible manipulation.

(A) Intra-peritoneal rupture without delivery of the Fœtus.

The rupture, in these circumstances, may be spoken of as "spontaneous," because, as a rule, some part of the genital canal gives way without artificial interference, and the fœtus passes through the rent into the peritoneal cavity. In a few cases of precipitate labour, however, spontaneous rupture may occur, but the fœtus is so rapidly driven onwards by the excessive uterine action that it passes the rent and is delivered per vaginam.

Of the 6 examples of spontaneous rupture, 5 were multiparous women, one had had no less than 12 full term children and 4 miscarriages. There was no obvious pelvic contraction present in any of the cases, and there was no evident cause for the delay in the delivery, except in one in which the fœtus weighed 12 lbs., and in two the presentation was right occipito posterior while in the rest the vertex was apparently presenting normally.

Although there may have been some general contraction of the pelvis, it is quite certain that there was no great obstruction in any of the 6 cases, with the exception of one woman who had previously had 4 full-term children. This patient went into labour with her fifth child, which weighed 12 lbs., and the vagina ruptured spontaneously, and even in this case the symptoms of threatened rupture were absent.

Contracted pelvis, especially the milder degrees, obstruction due to tumours, or faults in the size of the fœtus or the presentation, are commonly associated with rupture because the passage of the fœtus through the pelvic cavity is relatively made more difficult, but we must look to the condition of the walls of the genital canal for the explanation of those cases in which the rupture occurs when the pelvis, the fœtus, and the presentation are normal.

Everyone is familiar with the fact that the lower uterine segment thins out during labour, and the greater the obstruction to delivery, the more marked this thinning becomes, until eventually the wall of the canal gives way. It is clear that, if the wall of the genital canal is weakened by degeneration,

it will rupture more easily, and there may come a time when it may not be able to stand the tension of even a normal labour. Multiparity is the great cause of uterine weakness, but chronic renal disease and alcoholism play their part in the degeneration of the uterine as of the cardiac muscle. The part played by contracted pelvis and malpresentations, in the causation of spontaneous rupture, is quite insignificant in comparison with that played by the strength and condition of the wall of the genital canal. For instance, a woman may have had twelve normal labours, yet the genital canal ruptures at the thirteenth; and again, a patient, with slight general contraction of the pelvis, may have many children but there may come a time when the genital canal fails to stand the extra strain placed upon it, and gives way. In the same manner, a large child, or a persistent occipito-posterior presentation, may cause rupture. I do not know that the microscopical evidence of uterine degeneration is very convincing, but fibroid changes and fatty degeneration of the muscle have been described. I have not been able to convince myself of any marked changes in the sections, which I have examined. Nevertheless, the clinical evidence that the walls of the genital canal may become so weakened by frequent child-bearing is indisputable. It stands to reason, therefore that the chief offenders, so far as obstruction to delivery is concerned, are mild degrees of contracted pelvis, malpresentations of the fœtal head, and large size of the fœtus; obstruction, in fact, which a young healthy uterus will overcome but not one which is worn out with multiple child-bearing, or degenerate from other causes. I do not mean to say that, in first labour, rupture of the genital canal may not be the final result of obstructed labour, with marked contraction of the pelvis, or transverse presentation; but the better knowledge, among present-day midwives, coupled with the timely warning which the symptoms of obstructed labour give, when a young healthy uterus passes into tonic contraction, will, in most cases, bring the necessary artificial interference and relief before rupture can take place.

Multiparity also predisposes to rupture, because the abdominal muscles lose tone and power. The uterus, therefore, not only loses a considerable amount of the accessory powers of expulsion, but pendulosity upsets its normal axis, and the want of support and deviations from the normal uterine axis must increase the liability to rupture.

Precipitate Labour as a Cause of Rupture.—In 2 cases of the 17, the rupture was undoubtedly due to a riotous uterine action. In one case, a young primigravida, aged 19, labour had only been in progress about twenty minutes when a normal sized living fœtus was expelled with the vertex presenting.

The extern attendant arrived soon after the child was born, and, on failing to deliver the placenta, sent for help. The rent was discovered when the resident obstetric officer passed his hand into the uterus. There was no contraction of the pelvis. The second case is one of great interest, and I had the opportunity of obtaining the details from the doctor in charge of the patient before admission.

A patient, aged 39, who had had four full term children previously without difficulty, went into labour at 10 a.m. and a child was born within half an hour, the vertex presenting. The patient did not become collapsed, and the doctor, who arrived soon after the birth of the child, found a second fœtus presenting with vertex. The uterus was in an almost passive state, but the fœtal head seemed to be engaging the brim. The doctor decided to await the return of uterine contractions. After waiting about an hour and a half, he found that the fœtal head was loose in the brim, and it eventually disappeared altogether. The patient did not show any signs of collapse, but the rupture was diagnosed. On admission, her pulse was 100, she was not blanched or collapsed, and her general condition was satisfactory in every way. The fœtus could be felt easily through the abdominal walls with the uterus contracted down to the level of the umbilicus, and there was slight hæmorrhage from the vagina.

The rupture was in front, and on the right, the bladder being much torn. The abdomen was opened at once, and the fœtus removed with the double placenta. The pelvic peritoneum was so much torn that it was decided that hysterectomy would afford the best hope of recovery. The patient did very well for about forty-eight hours but leakage of urine occurred, and she died of peritonitis about four days later. The first fœtus weighed 6 and the second 5½ lbs. and the pelvis was not contracted. No doubt the first fœtus caused the damage to the genital canal, and the second fœtus passed through the rent into the peritoneal cavity. These two cases illustrate well the dangers of precipitate labour, which must be looked upon as a very definite cause of rupture, and one which it would be difficult to avoid. It is obvious that a large fœtus or a weak uterine wall would also predispose to rupture in precipitate labour, but it may occur when the fœtus is normal and the walls of the genital canal are in a young and healthy state.

Signs and Symptoms of Spontaneous Rupture.—Some of the classical signs of threatened rupture, as given in the text-books, may be present, but, as a rule, in spontaneous rupture

there is a complete absence of such symptoms. All the cases of spontaneous rupture where the fœtus was delivered were not diagnosed until the presenting part became loose and disappeared, but there was slight bleeding from the vagina before this happened in two cases, which, however, was not sufficient to raise a suspicion of what was going on.

The pulse rate may rise some time before actual rupture or collapse sets in, but, if the hæmorrhage is not great, collapse may not become obvious until some time after the disappearance of the presenting part. It is true that the uterine pains may cease, because when the uterus is relieved of its tension the pains cease in the same way as when the fœtus is delivered per vaginam. In most cases, therefore, there is absolutely no warning that rupture is imminent, and the first indication that something is wrong is given by the loosening of the presenting part, and perhaps by the general condition of the patient. The absence or presence of premonitory symptoms will depend wholly upon the condition of the walls of the genital canal. If a young healthy uterus has to overcome obvious obstruction to delivery, it will give plenty of warning that rupture is threatening, but a degenerate uterine wall will give way sometimes, whether there be any real obstruction or not, without the least hint until the rupture has actually occurred.

Spontaneous rupture is therefore most often quite unavoidable, and should not call for hostile criticism. Rupture generally takes place at the point of greatest pressure, its direction being transversely to the line of greatest tension. It is therefore generally behind and vertical in the vagina and oblique or transverse in the cervix and the lower uterine segment. The site of rupture is nearly always at the cervico-vaginal junction, extending upwards and downwards to a more or less degree into the lower segment or vagina.

Treatment.—If the fœtus and placenta have passed into the peritoneal cavity, the abdomen must be opened. It is useless to attempt to deliver the fœtus by passing the hand through the rent, seizing the leg, in the hope of dragging the fœtus back through the rupture, and delivering it per vaginam. It must be remembered that the uterus has contracted down, after rupture, and the walls of the genital canal were much stretched by the fœtal head, before the rupture became large enough to allow of its escape into the peritoneum. It stands to reason that any attempt to drag the fœtus back into the genital canal must do further damage. I mention this possible method of delivery of the fœtus, because one might at first sight be tempted to try it, and I have actually seen such an attempt, which, needless to say, was not only a waste of valuable time, but did considerable damage. The fœtus and placenta must therefore be removed by opening the abdomen. Now comes the question as to what to do with the rent. This depends greatly on its position. If it can be got at, it is best to suture completely. If the whole length of the rent cannot be reached, as much of it as possible should be sutured, and the rest plugged with gauze. The most difficult position will be that part of the rent which involves the peritoneum of Douglas's pouch. In one case I was able to suture nearly the whole of the rupture, even at the bottom of the retro-uterine pouch, but I purposely left an opening for a gauze drain into the vagina. A Hagedorn needle holder and needle will be found to be the best instrument for suturing deeply in the pelvic cavity, and a continuous, rather than an interrupted, catgut suture will save time and the Trendlenburg position is necessary.

The direction which the rent takes in the lower segment and cervix is most often oblique, or even transverse, so that it frequently involves the broad ligaments and the peritoneum over them, and sometimes the bladder may be also torn. Where the peritoneum, in relation with the uterus, is involved the sutures should be placed deeply into the muscular walls to check hæmorrhage, but, when the peritoneum over the cellular tissue of the broad ligaments is torn, the peritoneum only should be brought accurately into position, in the same way as is done in covering over the stump after hysterectomy. To put it concisely, the operator should attempt to convert an intra-peritoneal into an extra-peritoneal rupture. If the general peritoneal cavity can thus be shut off, the rent should be plugged from below in the same way as when the rupture is extra-peritoneal. Before closing the abdomen the peritoneal cavity must be washed out with a large quantity of saline fluid; but I see no reason for peritoneal drainage.

There is one other important point, viz., hæmorrhage. This may be severe, but, as a rule, it is not. The bleeding generally comes from the torn edges of the genital canal and the veins of the cellular tissue, and will, in most cases, be easily checked by placing the sutures through the whole thickness of the walls of the genital canal, or by actual suture of the bleeding vessel, in a few, and by relying on the plug to stop the bleeding in the cellular tissue. In a few cases the hæmorrhage is reported to have been severe, a large branch of the uterine artery having been torn. In one specimen I have seen the rupture pass deeply into the broad ligament, right across the line of the uterine artery, which can be seen bridging the cleft like a telephone wire. The main branch of the artery is nearly always able to resist laceration.

Hysterectomy is recommended by some as a routine treatment. If hæmorrhage is severe, hysterectomy may become

necessary, but, as a general rule, this operation will add too much to the already existing shock. If the bladder is ruptured the right treatment is to sew it up, and bring the peritoneum carefully together, so that, if there is any urinary leakage, a gauze plug inserted below will effect satisfactory drainage. The general treatment for shock should be adopted. I think that the above is the best form of surgical treatment. Much, however, will depend upon the rapidity of the operation, and the general condition of the patient. As a rule, the immediate collapse is so great, that there is little hope of recovery whatever is done. On the other hand, the patient may remain in a satisfactory condition for some hours after the actual rupture, and disappearance of the presenting part. Of course a good light and extra help may not be at hand, and a hospital not within easy distance. In these circumstances, the abdomen must be opened, the fœtus and placenta removed, and the abdominal cavity well flushed out with saline fluid. The rent should then be plugged with iodoform gauze, carrying the ends of the gauze into the vagina, and the abdominal wound closed above.

This operation can be done on the bed, after cleansing the skin as well as possible, and should not take more than 15 minutes. Rapidity of action is often the only hope of saving the patient. In the few cases which I have seen, the shock has been much worse in spontaneous rupture without delivery of the fœtus, than when the fœtus has been delivered by version.

I have already mentioned that any marked alteration of the uterine axis must be looked upon as a predisposing cause of rupture, but I do not think that, apart from fixation by adhesion, simple deviation of the uterus is of great importance. When, however, the uterus is distorted by peritoneal adhesions binding one of its walls down, the uterine axis may become so profoundly altered, during the development of the gestation, that the cervix will not dilate, and the uterus may pass into tonic contraction, and its lower segment rupture. The best example of such a case is found in the adhesions, which form as the result of ventral hysteropexy. If the adhesions are dense, the anterior wall of the uterus is bound down, and, if pregnancy supervenes, the posterior wall develops at the expense of the anterior, so that the fundus uteri does not form the submit of uterus at full term. When labour sets in, the cervix does not sink into the pelvis, but is held high up above the pelvic brim, and, as retraction of the uterine muscle progresses, the posterior wall, being free from adhesions, becomes thinned out. Posteriorly, the cervix is pulled upwards, but the anterior portion remains more or less in its abnormal position. The cervix thus comes to look backwards. The full force of the uterine contraction is borne by the lower part of the posterior wall of the uterus which may give way under the strain. If the adhesions are posterior, the anterior, instead of the posterior, wall will develop during pregnancy, and rupture may take place in the same version.

The following short note illustrates the difficulties that adhesion may cause during labour.

A patient, on whom ventral fixation had been performed four years before, became pregnant. She went into labour at full term, and after twelve hours the os was only dilated enough to admit two fingers, and the cervix, instead of sinking into the brim, remained fixed high up in front. The uterus went into tonic contraction and the membrane ruptured. No progress was made in the dilation of the cervix, and rupture of the uterus seemed imminent. Cæsarian section was performed. It was noted that the uterine incision, although it was made in front, became posterior in half its length when the fœtus was removed. This shows well how distorted the uterus had become. The real fundus uteri had not kept its position at the submit, but had risen with its Fallopian tubes to about half-way up the anterior surface of the uterus a full term. The adhesion had held the cervix and anterior wall of the uterus rigidly while the posterior wall had developed, and no doubt the latter would have ruptured in a short time if Cæsarian section had not brought relief.

(B) Intra-peritoneal rupture with delivery of the Fœtus.

If the fœtus is delivered, the rupture, except in the case of precipitate labour, is nearly always due to forcible manipulations. In performing internal version, the operator, having grasped the leg, delivers the fœtus by this means, so that it does not pass into the peritoneal cavity. I believe that internal version is responsible for at least 50 per cent. of the major ruptures of the genital canal, and transverse presentations are frequently associated with rupture because version is the usual method of rectification and delivery. I am convinced that, whether the presentation is vertex, or transverse, internal version must always be performed with great care, and version is even more dangerous in cases of protracted vertex presentation. How often one sees, or hears of cases in which the fœtal head has been delayed because of want of flexion, or perhaps slight general contraction, and, instead of carefully considering the cause of the delay and its treatment, the doctor applies forceps, and failing to deliver by this means, he performs internal version. He may be successful even in delivering a living child, but it is not worth the great risk he runs of rupturing the genital canal. This sort of midwifery deserves severe condemnation, for, although internal version is an opera-

tion of great use, its application is as much abused as is that of high forceps. Version was performed in eight cases out of the seventeen, and judging from the histories, and from what one has seen personally, the rupture in each case was directly due to the version. In four cases, the version was performed to rectify transverse presentations, and, in the other two, it was used as the method of delivery with the vertex presented, because other means had failed, and there was delay in delivery from some slight cause. The pelvis was contracted in one case out of the six. It is stated that rupture of the uterus is more common in multiparous women, because transverse presentations are more frequent. This may be true up to a certain point, but, beyond the fact that a transverse presentation causes greater stretching of the lower segment in comparison with those in which the fœtus lies in the long axis of the uterus, it plays a small part in the direct causation of the rupture unless it is neglected. The uterus may be ruptured in performing version by the passage of the operator's hand through a tense and thinned-out lower uterine segment, but more often the damage is done by the fœtal occiput, which has to rise when traction is made upon the leg. If the lower segment is tense and thin, or, what is perhaps just as important, if the genital canal is weakened with degeneration, it will give way without the obvious symptoms and signs of tonic contraction. I do not suppose that anyone would perform internal version for transverse presentation, if the uterus was in tonic contraction with the shoulder driven hard down, and the retraction ring high up above the head and shoulder; but there are cases less marked than this, in which it will be difficult to decide whether to turn or not. Put in another way, the operator should have no doubt as to the condition of the lower uterine segment, and should decapitate rather than risk rupture by version.

Treatment.—An immediate diagnosis is not always made. Unless hæmorrhage is severe, collapse may not come on for some time after delivery, and the doctor may have left his patient fairly comfortable, only to be called back in a few hours to find her in a collapsed condition. In one case rupture was suspected because the placenta could not be expressed, and, on passing the hand into the vagina to find the cause, a large rent was discovered in the posterior wall of the vagina and lower segment. In two cases, the rupture was noticed because the douche failed to return. If the above symptoms do not lead to an immediate diagnosis, it will not be long before the pulse rate rises, and collapse sets in.

It is not always easy to feel the soft edges of the rent, because the vaginal and cervical walls hang in loose folds after the birth of the fœtus and placenta. In two cases, the diagnosis was not apparent to the doctors till the omentum appeared at the vulva, and, in one case, the omentum was mistaken for the membranes, but the fatty masses in the former ought at once to distinguish it.

If there is any doubt as to whether the uterus is ruptured the whole hand should be passed into the vagina and up into the uterus. The rent will then be readily felt. The hæmorrhage may be only slight externally, but severe internally. If this is so, the patient will soon show signs of collapse.

The prognosis is, of course, very bad, and needless to say, the earlier the diagnosis is made the better. The prognosis in intra-peritoneal rupture, with delivery of the fœtus, is distinctly better than when the fœtus passes through the rent into the peritoneal cavity.

Treatment.—There is no doubt as to which form of treatment will give the best result. The rent should be plugged with gauze, after first passing a tube through the rent, and flushing out the peritoneal cavity with large quantites of saline fluid. The plug must not be pushed too far beyond the edges of the rent. The uses of the plug are that it prevents the intestine and omentum from prolapsing through the wound; it acts as a drain, and stops hæmorrhage; and it promotes the formation of protective peritoneal adhesions, which shut off the general peritoneal cavity.

In the discussion of Dr. Herbert Spencer's paper, opinions differed as to the length of time the plug should be left in situ. Dr. Spencer left the plug three or four days, but I think that 48 hours is sufficient. If left longer, it is liable to promote sepsis. The plug should, if possible, be removed under an anæsthetic, and the vagina may be douched under lower pressure after a few days. The vagina is then packed loosely with iodoform gauze. This constitutes the treatment of rupture of the uterus when the fœtus is delivered. It might appear that suture of the rent is the best surgical proceeding, but it is not possible to completely suture the rent from below, and abdominal section with peritoneal suture from above is too severe a measure for a patient, who is probably already in a critical condition. In some cases, hæmorrhage is severe, and the plug may fail to control it. In these circumstances, if a large vessel is involved, it may be necessary to perform hysterectomy, and, of the two forms, vaginal hysterectomy will perhaps give rise to less shock. If these patients do not die of immediate shock and hæmorrhage, peritonitis frequently carries them off in a few days. In the majority of cases, peritoneal flushing, followed by the simpler application of a plug, is all that will be necessary beyond the general treatment for shock and hæmorrhage.

If the bladder wall is torn, it should, if possible be sutured, and this may necessitate laparotomy.

Special Forms of Rupture.—In rare cases the peritoneum alone becomes split. These ruptures are generally multiple, and involve the muscle superficially. It is difficult to see how these lesions occur, and probably the peritoneum itself is brittle.

In the two cases among the 17, which I have collected, the accident seems directly due to version. In one of these cases there were numerous vertical peritoneal splits; in the other there were only two or three, one of which ran for more than 4 inches across the posterior layer of the left broad ligament. In both cases, at the autopsies about a pint and a half of blood was found in the peritoneal cavity. It is doubtful whether, death was actually due to peritoneal lesions, for both patients were already in an extremely collapsed and exhausted condition from a protracted labour. A diagnosis is impossible, but if the signs of internal hæmorrhage are marked, such a lesion might be suspected.

Extra-peritoneal Rupture.—This lesion is probably more common than is supposed, because it may occur without recognition, and is frequently associated with forcible manipulations with a not fully-dilated cervix, such as the performance of bipolar-podalic version in the treatment of placenta prævia or any form of forcible dilatation of the cervix.

An immediate diagnosis is not often made; more often pain and rise of temperature, a few days later, indicate the lesion. Exudation by this time will have taken place into the cellular tissue followed by infection. On examination, a distinct fulness will be felt in one or other broad ligament, and the rent in the wall of the cervix will be felt by the examining finger.

The prognosis on the whole is favourable. Hæmorrhage is seldom severe enough to call for special treatment, and what danger there is, lies in the question of the virulence of septic infection, which is liable to occur in the cavity of the rent. The fatal case of extra-peritoneal rupture among this series is an example of the danger of sepsis in extra-peritoneal rupture. The patient was a primigravida, aged 34, who was delivered, with forceps, of a full term, dead, œdematous fœtus, the pelvis being moderately contracted.

A few days later, the temperature rose, and, after a short while, a definite swelling was noticed in the left broad ligament. This was looked upon as infective parametritis; symptoms, however, grew much worse, and, on further examination, a large rent was found communicating between the abscess cavity and the cervical canal, through which two fingers could be passd with ease. Pus was discharging per vaginam, and inflammation spread upwards to the renal and subdiaphragmatic regions, and the patient died of pyæmia on the 28th day of the puerperium.

One must also remember that, if a large abscess forms in the broad ligament, the peritoneum may slough, and a general peritonitis carry off the patient.

The treatment is simple. After washing out the cavity with mild antiseptic solutions under low pressure, the cavity should be plugged with antiseptic gauze. The plug should be removed in 24 hours, the cavity again washed out, and a fresh plug applied. After a few days of this treatment, the plug can be left out altogether, the patient being treated with ordinary vaginal antiseptic douches.—THE PRACTITIONER.

THE CONSERVATIVE TREATMENT OF COMPOUND FRACTURES.

By HUGH G. NICHOLSON, M.D.

In selecting the subject for my paper, I have allowed several influences to guide me, to-wit:

1st. The large number of compound fractures occurring in our midst, due to the hazards of mining, railroading, etc.

2nd. The large proportion of the profession who begin their work in this State do so at the mines. Being fresh from college, they are anxious to do some surgery; and with their lack of experience, an amputation will often be done that later on in their career would be at least postponed.

3rd. No artificial limb is so good as that provided by nature, and for that reason alone, I believe in conservative surgery in these injuries. If my leg had an ulcer on it as big as a saucer, I would prefer it to one made of papier mache or wood. If I had a corn on every toe, I would prefer it to a foot made of rubber, and if all my joints ached on rainy days, I would prefer them to the kind that squeaked with every step taken.

The cases I wish to report are eighteen in number, and will be given in the order in which they came under my care.

Case I. J. K., a negro miner, aged 30; first seen on December 26th, 1898, with a compound fracture of the humerus and of the upper third of the ulna, of two day's duration. As a complication the patient came in with phlegmonous erysipelas; Lea's metalic shoulder splint was used for the humerus, and the angular elbow splint for the ulna. For the erysipelas I used 10 per cent. ichthyol in glycerine locally; and ichthalbin 10 grains internally. Discharged on February 16, 1899, with ulna united. Humerus put in plaster cast with

instructions that it be left on one month. Saw patient in July of same year when union was good.

Case II. J. S., a white miner, aged 25, was received on April 30, 1899, with compound comminuted fracture of both bones of left leg in the lower third. Lea's metalic foot, ankle and leg splint was applied and the wounds dressed with antiseptics until healed. After then a plaster cast was applied. A shoe with elevated heel and sole put on the good foot, and with crutches the patient was allowed to go as he pleased. He was discharged well, on July 28th, 1899.

Case III. W. M., a white miner, aged 32, was received October 4, 1899, having been struck by one of the fast trains of the C. & O. Injury consisted of compound fracture of humerus, and of femur in upper third; with an apparent dislocation of hip-joint. I had no X-ray machine to verify my diagnosis; so applied Buck's extension apparatus, with the idea of reducing the dislocation later. After union, this was attempted under chloroform, and it seemed as if I could do so, yet it would again slip out. I opened up the joint and found a comminuted fracture of the acetabular cavity. The patient was discharged on January 21, 1900, and later developed pretty good use of the limb with a false joint and considerable shortening.

Case IV. W. G., a negro miner, aged 20, entered hospital on December 26, 1899, with a compound fractured olecranon of ten day's standing, and phlegmonous erysipelas, as a complication; sinuses burrowing between the muscles of the upper arm. Ichthyol and ichthalbin were used as in the other case reported, and free drainage provided. Patient was discharged on January 30, well.

Case V. R. J., a negro miner, aged 26, was received on January 18, 1900, with compound fracture of both bones of the leg one day's duration. Discharged well on March 18, 1900.

Case VI. John Banks, colored, male, age 19 years; occupation, motor engineer; diagnosis, compound fracture of femur of right leg caused by an eight ton motor passing over the same. Large opening on outer side of thigh some eight inches above the knee joint, produced by the over-lapping lower fragment; and another on the inner side just above the knee produced by the upper fragment.

Patient was brought to the hospital one day after the injury, on a cot, with no splints on the leg. His weight was 227 pounds, height six feet, four inches. On account of the swinging motion of the cot caused by the motion of the train, and aided by his weight and lack of splints, laceration of the punctured muscles was horrible. His physique was so good, though that I decided not to amputate. The leg was put up in Buck's extension apparatus, and although I could not extend the adhesion straps above the knee, I did not have to renew the same while the patient was in the hospital.

Patient developed a phlegmonous erysipelas a day or so after entrance, which was treated with local application of 10 per cent. ichthyol in glycerine, and 10 grains ichthalbin internally three times daily. After the contused muscular tissue sloughed out, this complication disappeared. The following points presented themselves as special difficulties in the treatment of the case.

1. The height of the patient was such that I had to keep his head extended beyond the mattress in order that I might get proper extension of the injured member.

2. The injury was such as to require careful cleansing and dressing each day, and how to do this with no further injury to the parts and not disturb union of the bone, was especially hard on account of his weight and height.

3. It was hard to decide to try and save the leg after the ereysiplatous infection had set in. However, I left it on, dressed it every day and the recovery was good, and there was comparatively little shortening. Patient came under my care on February 23, 1900, and was discharged June 16, 1900, a little less than four months after the injury. Had he consented to skin grafting he could have been discharged much earlier.

I present the case more especially to show that at times conservatism pays even when the odds seem over-whelming.

Case VII. D. M., a negro minor, aged 22, was received on March 4. 1900, with compound fracture of tibia and fibula. Discharged well April 16, 1900.

Case VIII. W. R., a white miner, was received May 1, 1900, with compound fracture of both legs below the knee of three day's duration. Discharged well July 2, 1900.

Case IX. E. H., a white baker, aged 50, and a chronic alcoholic, was received on May 23. 1900, with a compound Pott's fracture of the left leg of one day's duration. Moist gangrene developed on June 11th, and on June 13th the leg was amputated well above the knee. Patient died on June 25th from general sepsis. If this case had been amputated on entrance the result might have been different.

Case X. T. S. H., a colored miner, aged 18 was received on July 25. 1900, with compound fracture of tibia of one day's duration. Discharged on August 15th in good condition.

Case XI. R. E., a white miner, aged 20 years, was received on July 31, 1900, with compound fracture of tibia of

one day's duration. Discharged October 8, 1900, about well of wound, and good union of bone.

Case XII. W. N., a colored miner, aged 33 years, was received on November 10, 1900, with compound fracture of internal malleolus and several tarsals. Injury was followed by necrosis of bones of foot and leg. Necrotic tissue was curetted out, but the process continuing the leg was amputated February 19. 1901. Patient discharged well on March 7, 1901.

Case XIII. O. R., a negro miner, aged 25 years, was received on January 16, 1901, with compound fracture of both bones of leg of one day's duration. Died February 14, 1901, from general sepsis.

Case XIV. S. H., a colored miner, aged 18 years, was received on February 14, 1901, with a simple fracture of left leg and a compound fracture of the right leg of one day's duration. Discharged well on March 26, 1901.

Case XV. F. S., a colored miner, aged 20 years, was received on February 28, 1901, with compound fracture of tibia and fbula of left leg. Discharged April 13, 1901, well.

Case XVI. P. L., a colored miner, aged 47 years, entered hospital on July 20, 1901, with compound comminuted fracture of humerus of one day's duration. No radial pulse. Amputation advised, but could not get consent of patient. Gangrene developed second day in hospital and patient died August 1 1901.

Case XVII. E O., colored miner, aged 18 years, entered the hospital on September 16, 1901, with compound comminuted fracture of tibia and fibula of left leg of seven day's duration and infection. Discharged well November 9, 1901

Case XVIII. In November, 1904, E. L. B., a white carpenter, aged 50, came into my office for consultation, and I put him on treatment for syphilis. He gave history of eruption some months previously, but no primary sore. Lymphatic involvement was general and cleared up under treatment. On January 9 1905, he suffered a compound comminuted fracture of both bones of the left forearm a piece of the ulna about three inches long being removed. Arm was first put up in padded wooden splints, and when swelling had subsided a plaster cast was applied, a window being cut through which to dress the wound.

At the end of six weeks the cast was removed, but union was not firm. The arm was then put up in Lea's metalic splint until April 19th. At that time union was not firm, but nearly so. I then had a leather splint made to fit the arm, which laced like a shoe. I put him to work and in a month more he had firm union and good use of the arm, but not good to look at, being very knotty and irregular. Constitutional treatment was continued throughout.

In all casee of the lower leg I put on plaster cast as soon as the swelling had disappeared, and dressed the wounds with the usual antiseptics. The patients were given crutches, and with an elevated shoe on the good foot advised to walk, allowing the injured leg to swing. Good union was secured in all cases. The two deaths in the series were due to chronic alcoholism and atheromatous vessels in one case, and to infection brought with the patient in the other.

Many of the injuries looked so bad that it seemed impossible to save the member. My results were such that I now amputate only in such cases that by looking I know I cannot save the injured member. When in doubt I give the patient the benefif of that doubt and wait. It is hard on the maker of artificial limbs, but the gratitude of the patient and the comfort of knowing your duty was well done—permits me to advise—be conservative.

In explanation of the erysipelas complicating several of the cases, I will say that most of them came from one physician, and the source of infection as near as I could gather was a pocket case; instruments from the same being used without sterilization.—THE VIRGINIA MEDICAL SEMI-MONTHLY.

THE GUAIACOL TREATMENT OF PNEUMONIA.

BY M. G. CAIN, M. D.

Two years ago I reported in the Therapeutic Gazette sixteen cases of croupous pneumonia treated with guaiacol with no mortality.

This communication is supplementary to that report. The number of cases treated has increased since that time to about fifty, besides a number seen in consultation, and with the same results. My cases have not been selected. Every case that I have seen, of whatever age or condition, has been treated by this method.

Believing that fifty consecutive cases of pneumonia without a death may be of interest, I will again bring my treatment of this disease to the attention of the profession. I will give an outline of my former paper, making such changes and additions as added experience has suggested.

The remedy is rubbed into the skin. Any part of the body may be selected. The abdomen absorbs the medicine more

readily than the chest, and this site is selected unless there is pain in the chest, when the seat of pain is chosen, as usually its use relieves the pain. No two applications are made in the same place. The skin is first thoroughly cleansed with soap and water, or with ether. The dose is from 5 to 30 minims, but the average dose is 20 minims for adults and 10 minims for a child one year of age. Children require a larger proportionate does than adults.

The drug is dropped slowly from a medicine dropper (the usual size holds about 20 minims) and rubbed in with the end of one finger, as much will be absorbed by the finger if care is not taken. It is usually all absorbed in one or two minutes.

This agent acts very promptly. In about an hour the patient perspires freely, and the temperature, pulse, respiration, and color of skin commence to improve. Within six hours the temperature drops from two to four degrees, and the general symptoms are much improved. I never repeat the treatment in less than twelve hours. In some mild cases the treatment is not repeated, the temperature not rising again much above normal. The average number of treatments is between three and four. Many cases receive two applications—an initial dose of 20 minims, followed in twenty-four hours by 10 minims. In fact some of the worst cases require but two applications. I will mention two interesting cases that occurred this fall.

One case seen in consultation with Dr. M. was a child ten years of age. The disease had reached its second stage. The temperature was 104°, and the patient was very sick. Fifteen minims was used, and twelve hours later the temperature was 101° and the patient much improved. At the end of twenty-four hours after the first dose the temperature rose to 102°. Ten minims of guaiacol was used, and twelve hours later the temperature became normal and remained so.

October 14, 1907, I was called to see Mr. P., aged seventy-five. I found the patient very ill in the second stage of pneumonia. The right lower lobe was involved, the respiration labored, the eyes suffused and dull, and the skin of a dusky color. He was delirious, picking at the bedclothes and begging to be taken home His heart was irregular and none too strong. He had suffered from valvular insufficiency for many years. His temperature was only 102°, 5 but his general condition was exceedingly bad.

I used fifteen minims of guaiacol, and saw him again at 6 P.M., or nine hours later. The temperature was now 98°, and all the symptoms had improved. On the next day at 9 A.M. the temperature was 97°, and the other symptoms about the same as at the last visit. At 5 P.M., the temperature war 101° and the delirium had increased. I used eight minims of the guaiacol, and on the 16th the morning temperature was 97'5° and the symptoms had all improved. The temperature did not again rise above normal. He was up, dressed, and about the room in seven or eight days from my first visit.

This treatment appears to arrest the disease in some cases, and in all to shorten its course and render it less severe. In the greater part of the cases physical signs have not developed very much after treatment was commenced. Dulness usually does not increase, but soon diminishes, and the sputum if red is apt to lose its color in a day or two.

This agent moderates the action of the heart, but in proper dosage, not unduly so. However, an agent of such potency is not to be trifled with. I never trust it in unskilled hands, but usually apply it myself.

Very little other medication has seemed necessary in these cases. Tonics, stimulants, and expectorants have been seldom employed. I have kept the bowels well opened, fed the patient lightly, and insisted upon frequent sponge baths and plenty of fresh air.

The direct influence of this agent upon the thermic centers would explain the prompt fall in temperature, but to maintain a lower temperature and a general improvement in all the symptoms it must in some way affect the morbific element that maintains the disease.

How is this accomplished? Does it neutralise toxin? Does it destroy the pneumococcus or so impair its vitality as to render it an easy prey to the phagocyte or incapable of producing toxin in as large quantity or of as virulent quality? Or does it stimulate the white blood-corpuscles to renewed activity.

I first administered guaiacol by this method in cases of tuberculosis, and found that it seemed to produce the full effect of creosote without the advantages of the usual methods of administering that drug. This experience led me to inquire if this agent might not be of benefit in pneumonia, a disease that has seemed to baffle all our resources.

In my tubercular cases I have always combined guaiacol with the open-air treatment and while I have had good results I have not known how much effect to attribute to the guaiacol, but in my pneumonia cases the results have been excellent.—THE THERAPEUTIC GAZETTE.

A REVIEW OF SOME RECENT WORK ON SYPHILIS.

By J. ERNEST LANE, F.R.C.S.

THE TREATMENT OF VENEREAL DISEASE IN THE ARMY.

Two reports on this subject have recently been issued by the Advisory Board for Army Medical Services. The first volume deals mainly with the recent literature on the subject of the venereal diseases, and commences with a brief account of the various prophylactic measures, which have been adopted in this, and in other countries. It then proceeds to describe the different methods of treatment of syphilis, and to compare and contrast their relative efficacy. The administration of mercury by the mouth is first briefly described, and its advantages and disadvantages are pointed out, more prominence being given to the latter. Inunction is next mentioned, and the routine of Aix-la-Chapelle and Wiesbaden is especially alluded to. The most important feature of this volume is, however, a description of the various methods of intra-muscular injection practised at home and abroad, a description so complete and comprehensive as to justify us in saying that it is a most valuable addition to the literature of the subject. No work in the English language treats of intra-muscular injections at any length and with any detail, and the practitioner, who desires to make trial of this method, cannot do better than perfect himself in the subject by a perusal of this section. The treatment of chancroids and of gonorrhœa is also fully discussed, but in these subjects references to foreign literature are not so freely made use of, and some of the recommendations are open to criticism. Though it is recognised that the various modifications of nitrate of silver are the only reliable gonoccocicides, yet hardly sufficient stress is laid upon the importance of using these applications at the earliest available opportunity. The volume closes with reports on the prevalence of the disease in the various military stations, and gives statistics and charts which will be found useful for purposes of reference. The second volume is a report of the evidence given before the Advisory Board by members of the profession, both military and civilian, who had special knowledge and experience of the subject. Information was sought for as to the most efficient methods of treatment of syphilis, as to when, how, and for how long mercury should be administered, as to the value of the iodides in syphilis, and as to the best means of treating gonorrhœa. An analysis of the evidence would not be of great value seeing that on many debateable points there was a great divergence of opinion, in some degree due to the widely different conditions and surroundings of civilian and military patients. Treatment by intra-muscular injections appears to be almost universal throughout the service, and to yield far better results than those obtained by other methods, and it is obvious that where the individual is under constant supervision and discipline, this plan will meet with better results than others; but, in the ordinary cases of syphilis, very few private or hospital patients will submit to it, and it is only in severe and malignant syphilis that it can be adopted. One cannot fail to be struck by the very excellent recommendations, laid down for the treatment of syphilis in the army, by Col. W. J. Fawcett, R.A.M.C.

EXPERIMENTAL RESEARCHES ON SYPHILIS.

Metchnikoff and Roux (Annales de l'Institut Pasteur, Nov. 1904) publish the results of their researches on syphilis, so far as they have at present advanced. They dwell upon the necessity of the most rigorous scientific conditions in carrying on experiments with the view of determining the nature of the syphilitic virus. As, until recently, syphilis had not with any certainty been inoculated into animals, the field of investigation had been reduced to inoculations of men, but these had been so few, and had been carried out in such a manner, as to render them of very little scientific value.

But the discovery of the susceptibility of anthropoid apes to the syphilitic poison has caused a considerable advance in our knowledge of the nature of the syphilitic virus. In two previous communications, it had been shown that the syphilis of man could with certainty be inoculated into the chimpanzee, and could thence be transmitted to others of the same species. At present no information had been obtained as to the nature of the virus, in spite of the most minute examinations, nor had any microbe been discovered. It had, however, been ascertained that it did not belong to the group of so-call invisible microbes, for the active principle of syphilis would not pass through the Berkfeldt filter in the same way as the invisible microbes of aphthous fever, of yellow fever, of foot-root, or of bovine peripneumonia. An hour's heating at a temperature of 124° F. renders it innocuous to the chimpanzee, but the mixture of secretion from a chancre with glycerine does not affect its inoculability if used immediately after the glycerine is added.

In short, filtration, or heat up to 124°F. for an hour, deprives the syphilitic secretions of their virulence, a fact of significance, since we know that certain microbic diseases deprived of their virulence by similar means, are of service as vaccines.

Experiments made on chimpanzees with the virus filtered or heated to 124°F. failed completely, but on subsequently inoculating the same animals with active virus from a syphilitic subject, the inoculations were perfectly successful.

In the same way, if an animal was inoculated with the syphilitic virus in so minute a dose as not to produce any local lesion, no symptoms supervened, from which it may be concluded that the virus, so attenuated as to cause no local lesion, is useless as a vaccine, and that, to obtain immunisation, it is necessary to utilise a virus capable of causing some local manifestations, even though they may be of the most trifling nature. This was proved by inoculating a chimpanzee with virus taken from a lesion in a Macacus simius, in which animal the poison was greatly attenuated. This chimpanzee showed after this first inoculation a chancriform cutaneous lesion, very insignificant and not followed by any secondary symptoms; this animal had since proved to be refractory to inoculations with active human virus.

Thus, Metchnikoff and Roux have been led to study the action of the syphilitic virus on certain of the inferior apes, in which they could attain the necessary degree of attenuation. Some of these apes were altogether refractory to the poison, but others showed a slight susceptibility for instance, the Macacus rhesus, in which one out of three inoculated presented a chancre not followed by any secondary symptoms. The long-tailed Macacus was more amenable, for, in ten cases out of twenty, the inoculations were followed by chancrous lesions with slight glandular enlargement, but no secondary eruption. As for the Macacus of Buffon, it seemed still more receptive, for it gave ten successful inoculations out of fifteen, with similar symptoms to the varieties above mentioned. These researches show considerable advance, for, in addition to clearly establishing the possibility of experimenting on animals, they show the methods by which the virus may be attenuated with the view of obtaining a vaccine.

At a more recent meeting of the Academie de Medecine Metchnikoff and Roux announced the result of their investigations on the "spirochœte paluda" discovered by Schaudinn, of Berlin, and stated by him to be invariably present in primary syphilitic lesions, in secondary papules, and in the inguinal glands. Of the inoculated apes at the Pasteur Institute, six were examined to ascertain the presence of this spirillum. and in four it was discovered: it was also found in the papular syphilide of man in four cases out of six, and in one case of congenital syphilis. The organism is a very minute protozoon, almost transparent, of a corkscrew form, highly mobile, and very difficult to stain, and requiring special staining agents.

McWeeney (B. M. J., June 10, 1905) confirms the presence of these organisms in syphilitic lesions, and illustrates their form and appearance. He concludes that the spirochœte may be etiologically connected with syphilis, and emphasises the importance of making careful search for it in deeply situated lesions beyond the reach of surface contamination, and of establishing its absence in non-syphilitic ulcers of the genital tract. He thinks that possibly the tertiary and congenital forms of the disease may prove to be chronic intoxications, due to the metabolic products of the spirochœte.

General Paralysis of Syphilis.

A. Fournier (Arch. de Med. et Chirurg. Spec., April 1905) proves by statistics that general paralysis is unknown during the first two years of syphilitic infection; it is very seldom met with after the twentieth year, and never after the twenty-third year. In the majority of cases it manifests itself in the mid-tertiary stage, from the sixth to the eleventh year after infection. Cerebral syphilis, on the other hand, may appear after the first year, increasing progressively until it reaches its maximum at the third year; after that time, it is rarely met with. The principal etiological factors of general paralysis are nerve strain, alcoholism, and venereal excess; but the two real causes are a mild form of syphilis in the early stages, and inadequate treatment. Four fifths of the cases of general paralysis are met with in subjects, who have been insufficiently treated, and it would appear that severe tertiary syphilis is always the result of defective treatment. When general paralysis is present, mercury, even in strong dosage, is powerless to effect any good, and is even harmful. Accordingly, the treatment of syphilis recommended is a series of energetic courses of treatment during the first two years of the disease, a rest of three years, a year of treatment in the fifth year, a rest of two years, and another course about the tenth year. Since statistics showed that general paralysis usually manifested itself about the sixth year after infection, and that it attained its maximum of frequency about the tenth year, it might be logically deduced that efficient courses of mercury administered about the fifth year, and again at about the seventh or eighth year, would prevent the occurrence of general paralysis. This method has the advatages over the usual plans of treatment, in which most of our therapeutic efforts are expended in the early stages of the disease. It is also most important to make a general study of the patient, to take into consideration his general health, his habits his regime, his hygienic surroundings, his previous illnesses, and his contitutional shortcomings, whether hereditary or acquired. But the most important point is to study the condition of the patient's nervous system, for if this is overtaxed or damaged by hard work, or other causes, it is almost certain that the syphilis will attack this weakened point. It is therefore, necessary to treat those

who, by their methods of living, are predisposed to syphilis of the nervous system, by preventive hygienic measures; by removing all causes of mental excitement; by the avoidance of all sorts of excess especially venereal, and by the prohibition of overwork, fatigue, excitement, and alcoholic excess. They should be recommended to lead a quiet regular, and peaceful life, preferably in the country, and intermingled with occasional courses of "rest cure." Courses of hydrotherapy, from their tonic action on the nervous system, are of the utmost value as a preventive measure, and should always be recommended to those whose hereditary tendencies, or whose nervous condition, would seem to predispose to syphilis of the nervous system. It is well to bear in mind that, of all the dangers which can emanate from syphilis, the most serious and the most numerous are associated with the nervous system, which is the habitual and the preferred victim of the disease. After the skin, the brain is the organ most frequently attacked by syphilis, and syphilitic affections of the nervous system are greatly in excess of all the other tertiary manifestations of the disease.

The Abortive Treatment of Syphilis.

Duhot (Annales de la Policlinique centrale de Bruxelles) recommends the early, vigorous, and abortive treatment of syphilis, which consists in giving the patient the maximum of mercury that his system can tolerate, continuing the treatment for as long as possible, and diminishing the intervals between each mercurial course. Administration of mercury by the mouth is absolutely of no avail for this purpose; the inunction treatment is blind and uncertain, and the only method, which can successfully cope with the disease, is that of intra-muscular injections. The treatment should be commenced, as early as possible, before any manifestation of secondary syphilis has made its appearance, and should be sufficiently energetic to destroy in its infancy the syphilitic virus, so that no manifestation of the disease presents itself either during or after the treatment. The conditions requisite for the success of the treatment are that it should be commenced immediately the induration of the chancre has established the diagnosis, that the maximum dose of mercury compatible with the resistance of the individual should be employed, and that the courses of treatment, especially the initial one, should be prolonged. The reason for the failure of the early treatment to abort the subsequent symptoms of the disease has hitherto been due to the insufficiency and inefficiency of the measures employed. The dose of mercury, which Duhot considers efficient, is 1 centigramme of metallic mercury daily, the salts recommended being calomel, grey oil, and salicylate of mercury. Calomel is undoubtedly the most powerful antidote to syphilis; no other salt possesses the same certainty and rapidity of action. It should be injected in doses of 10 to 12 centigrammes every eighth day: 10 to 12 injections constituting a course. Calomel rapidly breaks up on its introduction into the system, and the metallic mercury given off has superior therapeutic powers to those of any other mercurial salts, even though they contain larger doses of mercury. If the calomel is not tolerated, grey oil is recommended in doses of 15 centigrammes every four or five days, for so long as the patient can tolerate it; 15 being the minimum and 25 the maximum number. Salicylate of mercury is also efficient, being less painful than the other two preparations, and less liable to cause gastro-intestinal irritation; it should be given every two or three days in 10 centigramme doses; 15 to 25 injections constituting a course. The first course should last for three months, during which time the patient should be kept under close observation, and, if he shows no susceptibility to the treatment, it should be prolonged to four or five months. Periods of intermission from treatment are absolutely necessary to enable the patient to recover from the depressing effects of mercury, and the following is given as an average plan of the treatment:—

First Year.

1st course.—3 months.	1st rest.—1½ months.
2nd course.—2½ months.	2nd rest.—1½ months.
3rd course.—2 months.	3rd rest.—1½ months.

Second Year.

1st course.—2 months.	1st rest.—2 months.
2nd course.—1½ months.	2nd rest.—1½ months.
3rd course.—1½ months.	3rd rest.—2 months.
4th course.—1½ months.	

Third Year.

1st rest.—2½ months.	1st course.—1½ months.
2nd rest.—2½ months.	2nd course.—1½ months.
3rd rest.—2½ months.	3rd course.—1½ months.

Fourth Year.

1st rest.—2½ months.	1st course.—1½ months.
2nd rest.—2½ months.	2nd course.—1½ months.
3rd rest.—2½ months.	3rd course.—1½ months.

The majority of patients will tolerate perfectly such a course of treatment, which will render them free from any symptom of the disease during their treatment, and will ensure their definite cure. It may be objected that such a treatment would be superfluous in cases of benign syphilis, to which the reply may be made that there is no such a disease as benign syphilis; there is only one syphilis, and it is a grave disease. The mildness of the early symptoms gives no guarantee as to the future

and this is instanced by the case of a patient, who, forty five years after a very mild attack of the disease, consisting only of a faint roseola and a few mucous patches, developed locomotor ataxy.

This abortive treatment is not only beneficial to the syphilitic subject himself, but to society at large. As regards the patient, the disease is limited, in 95 per cent. of cases, to the initial lesion; no roseola is seen, or any of the other familiar manifestations; and since by this treatment every sign of the constitutional manifestations of the disease is averted, it must be admitted that the virus, whatever it may consist of, is not only attenuated, but is rendered harmless. Most surgeons attach but little importance to the roseola, which is, however, the criterion of a general systemic infection by the syphilitic virus, indeed many wait for its appearance before commencing treatment. As a cutaneous manifestation it is of no serious import but, coincidently with its appearance, there is produced in the whole system a series of vascular changes and degenerations, which, though invisible, are productive of those later lesions and scleroses, with which we are impotent to deal. And this early invasion of the vascular system is probably the initial cause of the endarteritis, which later will involve the nervous system and will give rise to tabes and general paralysis, and other serious manifestations. As regards society at large, this abortive treatment constitutes the ideal, which Professor Fournier has named "the prophylaxis of syphilis by treatment" since, by rendering the patient harmless to his fellow creatures through the absence of syphilitic manifestations, society will by this means be protected against him.

Intra-Muscular Injections Of Calomel In Syphilis.

Ernest Lane (The Polyclinic, November, 1904) eulogises the treatment of syphilis by intra-muscular injections, and recommends calomel as being the most powerful antidote to the syphilitic virus; the dose recommended was ½ of a grain of calomel or 5 centigrammes, suspended in ℥ xvii. of sterilised olive oil, eight injections at a week's interval, or longer, constituting a course. (Since writing this paper, its author has considerably increased the number of injections he considers requisite for the initial course, and now recommends 15 or 20 injections prolonged over four to six months.) The intensity of the disease should be a guide to the energy of the treatment, and, since the insoluble preparations are far more powerful than the soluble ones they are specially indicated in the severe and malignant cases of the disease, and where it is desirable to maintain the influence of the drug with the least possible delay. The general course of the disease and the constitution of the patient should be taken into account, and the more energetic the treatment, the greater should be the precautions taken to ensure the patient against ginjuritis, gastro-enteritis, and other signs of intolerance of the drug. A rapid saturation with mercury was the best preventive of the tertiary stage of the disease, and to ward off this stage was the main object of treatment; the patient should be got under the influence of the drug as rapidly as possible, and should be kept under its influence for as long as possible; thus he should have treatment for eight or nine months in the first year, for six months in the second year, and for four months in the third year.

Intra-Muscular Injections Of Iodipin In Tertiary Syphilis.

Duhot (Revue pratique des Mal. Cutan. Syphil. et Vener., December 1, 1904) recommends the use of iodipin in the general and local treatment of tertiary syphilis. Discovered in 1897 by Winternitz, iodipin is a chemical combination of iodine and oil of sesame, prepared in two strengths of 10 and 25 per cent. It is destined to replace iodide of potassium, which possesses the many disadvantages of iodism. It may be administered by the mouth, hypodermically, and intra-muscularly; hypodermically it may be given in doses of 10 grammes daily for 30 or 40 consecutive days, or intra-muscularly it may be given in the same dosage, but a special syringe and needle must be utilised, as the flow of this viscid fluid through the ordinary syringe was necessarily slow and painful. The cases treated by this remedy comprised aortic lesions of syphilitic origin, pains, and perforating ulcers in tabetic patients, and gummata, which had resisted other forms of treatment. A case instanced was that of a woman of 45, the subject of congenital syphilis, who for thirty-three years had suffered with syphilitic ulceration and fistulæ. Without any general treatment, the patient was cured by bi-weekly injections of iodipin at the base of the ulcers. The action of iodipin on the general system was exemplified by the disappearance of a gumma of the sternum at the end of five weeks.—The Practitioner.

RACE SUICIDE.

By Chas. E. Low, M.D.

There is no class of people so abundantly able to appreciate the blessing of a family of children as that great class who already have them; and yet all these may not readily agree with our strenuous Mr. Roosevelt concerning the danger of race suicide in its effect on the ultimate condition of our body politic.

It is no doubt true that a large percentage of our parentage is more and more made up of a class of people who are the least assimilable in our form of free government, and that their children will, as a result of such parentage, be less likely to appreciate the spirit of our institutions. This is particularly so as the influence of our native stock becomes less and less felt, on account of the decreasing number of children in our typically American families. Nevertheless, these factors may be compensated for by making the quality of our small truly American families make up for the quantity of the larger ones, thus affording leaders of thought and action to maintain our ideals.

The great pity is, that those persons who are bound together by the ties of holy matrimony without enjoying the blessings of fatherhood and motherhood cannot appreciate the loss of that full measure of happiness to be realized in the mutual affection of parents and children, nor do they realize the cohesive power of parental and filial affection which offers such a bulwark against domestic infelicity and divorce. How many parents have been, aye, how many parents will be, led to overlook frailties in one or the other through mutual love for, and interest in, their off-spring, and how many of these offenders would have drifted wider and wider apart had it not been for this bond of mutual love? From the time of the prattling child on one's knee to that of the self-reliant adult ready to share his strength with that of our declining years, there has been continually an altar of devotion at which misapprehensions and doubts could be forgotton in the instinctive love for offspring. What a host of half-orphans have inspired in the surviving parents lives of sublime heroism in their devotion to their children, and this, too, when no other motive could have made life tolerable.

And yet, despite the cogency of these facts, there is a constantly increasing class of people who thrust aside parenthood as a calamity to be dreaded like a plague; and, although it is not the purpose of this paper to try to completely analyze the various causes which lead up to this condition we must review some of them in order to reach an intelligent understanding of why it exists.

However much the existence of such a condition is to be deprecated, there is no evading it as a fact, and if there is to be a class of married people who will not accept the pleasure and responsibility of parenthood, let us inquire if there is anything ethically wrong in its prevention, and if not, instruct them as to the best scientific means of avoiding it and as to the danger incurred in the current practices used for that purpose.

To do this the matter must be spoken of in plain terms and we will premise our further argument by the old adage that "an ounce of prevention is worth a pound of cure," wishing thereby to call attention to the fearful results of interrupting pregnancy, as evidenced by the current reports in the daily press detailing the death of the victim and the criminal prosecution of the operator, a combination of disaster and crime only equalled in its awfulness by the moral perversion which prompted the act of unnecessarily destroying a potential human life. The term potectial is used advisedly, for as soon as conception has taken place there begins the growth of an organism which from the start exists as a multicellular entity having more or less independent functions of its own, and barring accidents or intended interference causing death, becomes at birth the living human being.

The gratification of sexual desire is a normal instinct of all the higher orders of animal life directed towards the perpetuation of species, and so long as it is kept within reasonable bounds is as salutary as any other organic function. In man the practice must be governed by the individual reason, and like the well-nigh universal demand for some form of stimulant, it can in a measure be regulated, but not prohibited.

With the sexual desire incorporated as a part of man's existence, its gratification follows as surely as taking food follows hunger; but as nature evidently has not designed that every act of copulation should be followed by conception, is it unreasonable to suppose that man is sometimes warranted in applying both his reason and art to prevent it? If man's mind was given him to raise him above the brute creation, is there any offense against law or morals in letting him exercise his faculty of reason in controlling his procreative function any more than in regulating his sleeping or eating? and is there any greater crime against nature involved in the prevention of conception than in remedying the overloaded stomach of some gourmand with a digestant, or the sleepless night of some debauchee with an hypnotic?

There is no denying the fact that up to the present time the medical profession as a body has evaded the issue, while some of its individual members have in certain instances advised in a half-hearted way methods of unknown or doubtful efficiency. The prevention of conception is either right or wrong, and should be recommended or denounced on a basis of scientific fact, rather than on one of sentimental tradition.

It may be argued that the fear of conception prevents the ruin of many a young woman, but, if chastity is promoted solely by the fear of conception, it loses the major part of its

ethical value, because such fear eliminates the doing of right for right's sake; and if chastity is once violated it would seem infinitely better that conception should be prevented rather than that woman and abortionist should be involved in a moral and legal crime by destroying a possible life.

I apprehend that there is a relatively small proportion of married people who avoid the responsibilities of parenthood because of any antipathy to children as such; and I assume, on the other hand, that there is a relatively large proportion who do so on account of the desire to shrink the annoyance and responsibility of bringing up children under the strenuous conditions of modern society, not so much because it will restrict or prohibit their participation in social functions, for after all most parents are not what may be called society people, as because they fear that they can not maintain themselves and clothe and educate their children in accordance with the demands of modern social conditions. This also leads many young people to avoid matrimony and to resort to illicit sexual intercourse, resulting perhaps in basterdy or the contraction of contagious veneral diseases, while others contract various habits of personal sexual irregularity from the effects of either of which they suffer through life. Any influence which operates to prevent the organization of even small families should not be lost sight of in its effect on the body politic, for it is through the lack of family ties that men and women are more and more coming into fierce industrial competition. Nor will any amount of argument induce these young people to embark in matrimony with the possibility of a large family, for we all realize the practical necessity of conforming to instituted standards of living, and logic cannot make the bare feet and calico dresses of two generations ago take the place of the shoes and silks of to-day, even though they served their purpose quite as well, because present standards of civilization are governing forces which will not permit the old customs.

If sexual intercourse cannot be prohibited what is to be said in defence of allowing parenthood to occur as a menace to society among those who will transmit hereditary temperamental or physical defects which will woefully handicap or perhaps utterly destroy their progeny. Nor should we overlook the baneful effects often seen by the medical man in large families where the mother's physical forces have become so exhausted by frequent child-bearing that she has fallen an easy victim to septic or tubercular infections, ending in death or worse, and whose children pass through life handicapped with the physical infirmities inherited from a mother unfit for producing offspring, and with that great lack of parental care which must be determined by the mother's physique and the demands of the rest of the family.

Who can demonstrate by any argument based upon reason that in certain cases, and under the advice of the physician, one or all of these conditions before alluded to are not sufficient reason for the prevention of conception? Nor can I see that such prevention offers any crime against ethics or the State, for it must be conceded that the destruction of either the unfecundated ovum of the female, or the spermatozoon of the male, before coalescence or conception has occurred, cannot be construed as depriving a foetus of existence, else it would be a crime for every continent male to have a seminal emission or for every virtuous female to discharge an unfecundated ovum during the process of menstruation, because some human agency did not supervene to place the two living cells under proper conditions to reproduce a human entity.

No amount of theorizing on the evils of race suicide will destroy current practices for the prevention of conception, and despite the statute forbidding it, condoms continue to be sold, even though they often lend but a sense of false security. Perhaps a more modern method is the use of the so-called "Whirling spray" syringe, which attempts to cleanse the vaginal tract of all spermatozoa by aqueous irrigation, but this must have its percentage of failures, because the semen is not readily soluable in water, and portions containing live spermatozoa may remain in the vagina. Probably the most current practice used is that of onanism, or withdrawal of the male organ of generation before coitus is completed.

It would seem that any method which was equally certain in its results, and which would obviate this pernicious practice, should have the endorsement of both law and morals, for I think that the consensus of medical opinion will bear me out in the statement that this practice has resulted in more nervous, mental and physical wrecks, and that in its ultimate results has disrupted more families than almost any other factor pertaining to sexual congress. On account of the intimate relation through reflex nervous centers, the whole organism is more profoundly affected by irregularities in the operation of the sexual apparatus than by those of any other portion of the body, and there is little doubt but that the continuance of this practice unknowingly renders the female averse to cohabitation through failure of complete gratification, and the male, after experiencing the same failure and also meeting marital rebuffs or indifference, is perhaps directed to illicit intercourse where he contracts venereal disease, or learns to his mortification and sorrow that he has acquired a habit of premature ejaculation which is drifting rapidly towards ab-

solute impotence. It is barely possible too that the female drifts into the realm of a man more fortunate in his sexual functions, and there learns the complete gratification of nature's instituted desire, with the result of a wrecked home and a social scandal.

If we are right in the conclusion that the prevention of a conception is justified by the preponderance of good over evil which will result from the scientific practice under the direction of the medical profession, then let us devote our attention to some efficient means of accomplishing this end, which it would seem might be done by finding a solvent for the viscid seminal fluid, thus allowing the destruction of the spermatozoa by contact with some substance inimical to their life; both solvent and destroyer to be susceptible of aqueous solution so that the solution could be readily prepared and used in some efficient form of vaginal irrigator directly after sexual intercourse.

Let us also encourage the spread of a belief that is justly becoming more and more prevalent, which is that the responsibility as between, parent and child is rather of the parent to the child than the reverse. In days gone by we only heard of the child's responsibility to the parent, without any seeming acknowledgment of what it meant to bring children into the world or regard for the qualities they inherited or the necessity of provision for their future. Less attention was paid to parent stock, prenatal influences or other conditions affecting the well-being of the child than was given to the breeding of our domestic animals. The main idea of the mutual relation was that the child should obey ironclad rules as made by the parent, and quite overlooked the fact that there is no animal organism born into the world that is so late in reaching maturity or so dependent on its progenitors until reaching that state.

The population of the globe is no doubt increasing fast enough, and it would seem in accord with the principle of evolution involved in "the survival of the fittest" that on the average the small family of high standard is the best fitted for present environment. If we must procreate let us do so when we want to, and as we want to but above all let us do so intelligently.—THE NEW YORK STATE JOURNAL OF MEDICINE.

A Mirror of Practice.

THE VALUE OF COD-LIVER OIL IN TUBERCULOSIS.

Twenty years ago a very considerable number of the profession regarded cod-liver oil as a sheet-anchor in the treatment of pulmonary tuberculosis, and, not understanding the pathological processes of this disease as accurately as might be, it was thought that this substance, which is at once a drug and a food, exercised a direct therapeutic influence. With a better understanding of the bacillus tuberculosis and the processes which it engenders, it became evident that cod-liver oil was only indirectly of value by aiding nutrition through its easy absorption and by its alterative constituents. It also became evident that the routine administration of cod-liver to tubercular patients was distinctly disadvantageous unless the patient could take it in addition to his ordinary food, and that when it displaced ordinary food, or destroyed the appetite and digestion, it not only did no good, but actually produced harm.

The use of cod-liver oil in tuberculosis is, of course, based primarily upon the fact that tubercular infection is usually accompanied by a marked loss of subcutaneous and other fats, or, in other words, by a wasting, and it was hoped that this fat might supplant that which was lost. This conclusion, however, was purely empirical, and, indeed, may have been said to have been based more upon theory than upon fact, for, so far as we know, there are few records which indicate that cod-liver oil materially adds to the weight of those patients with tuberculosis in whom the disease is already so far advanced as to be accompanied by rapid wasting.

It is interesting to note that J. W. Wells has recently carried out a series of experiments upon normal and tuberculous pigs for the purpose of determining the value of cod-liver oil when this infection is present. He finds that cod-liver oil is to be regarded as something more than a useful addition to the dietary of the consumptive pig, and he thinks that the oil has a distinctly curative influence in tuberculosis. A number of years ago Wells showed that cod-liver oil was easily assimilated, that it seemed to increase the assimilation of other fats, and also seemed to diminish tissue waste. This research was published in the British Medical Journal of October 18, 1902.

In the more recent series of observations the experimenter took young pigs of the same breed and age, and kept them in styes the same type and size feeding them

in such a way that all were equally nourished, and giving cod-liver oil in doses proportionate to the body weight. After determining the dose of oil which a pig can readily utilize, the animals were rendered tuberculous by feeding the organs of tuberculous cattle or by inoculation with cultures of bovine and human tubercular bacilli. The animals were killed at various intervals, and then carefully examined, control experiments being made by inoculating guinea-pigs. Wells found that the nutrition of tuberculous pigs was improved by the addition of cod-liver oil to other food, and that those pigs which received an emulsion of the oil did better than those which received the plain oil. He also claims that those animals which received the oil showed a considerable production of fibrous tissue in the infected glands with well-marked evidences of calcification, and that the oil helped to maintain their weight. These results, which are encouraging to those who are fond of administering cod-liver oil in tuberculosis, are of very considerable interest, although they do not by any means add to our knowledge of the action of this substance, for it is very evident that in these experiments the condition of affairs was indentical with that which should exist in human beings to which the oil is administered, namely, that the oil was given as an addition to ordinary diet, and so enabled the animal to combat his infection. If at any time it had been used to supplant an ordinary diet, or had been used in such quantities as to interfere with the digestion of ordinary food, we have no doubt whatever that it would have produced an evil effect in pigs just as it produces an evil effect in man.

Annotations.

AN EXCELLENT MEDICINE.

One of the best features of a sea bath is the salt water inadvertently swallowed by bathers. It is a wonderful tonic. In many cases it will cure biliousness when all drug preparations have failed. It is peculiarly effective in ordinary cases of indigestion, disordered stomach, and insomnia, and has been known to produce excellent results in many cases of dyspepsia. Clean sea water, such as is to be had at any of our numerous fashionable seaside resorts, is full of tonic and sedative properties. It will not hurt anybody. Indeed, two or three big swallows of it would be of positive benefit to nine bathers out of ten. It is not, of course, a palatable or tempting dose to take, but neither is quinine or calomel. You seldom, if ever, see an old sailor who is bilious or dyspeptic, or a victim to insomnia, and why? For the reason that an ocean of good medicine spreads all about his sky and he doses himself copiously with it whenever his mechanism becomes the least bit deranged.

THE USE OF MILK.

Good milk is one of the best of foods, but people use it in the wrong way. In its natural state it is never exposed to air and light. It is drawn in a very small stream from where it is secreted into the stomach of the nursling; for this reason it is impossible for it to form in large, hard curds in the stomach or absorb poisonous gases from standing about exposed. Man takes a glass of milk, which may have been standing about no telling how long, and gulps it down in two or three swallows. It should be sipped or taken with a spoon.

APPLES FOR SLEEPLESSNESS.

The apple is such a common fruit that very few persons are familiar with its remarkably efficacious medicinal properties. Everybody ought to know that the very best thing they can do is to eat apples just before retiring for the night. Persons uninitiated in the mysteries of the fruit are liable to throw up their hands in horror at the visions of dyspepsia which such a suggestion may summon up, but no harm can come even to a delicate system by the eating of the ripe and juicy apple before going to bed. The apple is excellent brain food, because it has more phosphoric acid in easily digested shape than any other fruits. It excites the action of the liver, promotes sound and healthy sleep, and thoroughly disinfects the mouth. This is not all; the apple prevents indigestion and throat diseases.

DISINFECTION OF HOUSES.

A very wholesome practice that bids fair to become an established custom is the disinfection of a house before a new family moves into it. This is done now where a case of very contagious disease, say, smallpox or diphtheria, has been known to exist; but how can we feel sure that the house we are about to move into and live in has not had in it an unrecognised or a suppressed case of measles, scarlet fever, or tuberculosis, or typhoid fever? Disinfection after these diseases is of the highest importance. Then, again, there are those diseases that are not fatal, perhaps, but, being communicable, may become certainly afflictions, nuisances. This precaution, therefore, should be demanded of every landlord by those who are planning to rent the house.

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The Indian Lancet.

CALCUTTA : MONDAY APRIL 13th, 1908.

THE UTOPIAN MEDICAL SCIENCE.

Much light and prophetic visions have been cast on the above abstruse subject by Dr. Sajons of world-wide fame and it may prove interesting to our readers.

The want of (analytic and synthetic) logical argument are taken advantage of very sparingly by investigators in progressive Medical Science even to-day.

After narrating a handful of experiments and clinical observations and giving an incomplete current literature on the subject, authors do not hesitate in launching tentative conclusions on every imaginable matter,—until and unless our minds became a store house of Jarring fabrications and fertile imagination. The great ambition of becoming original contributors to the Medical Science; they rush to premature and at times unjustifiable deductions on the strength of the rabbits and guinea-pigs used in the pathological laboratories experimentally or on a meagre collection of stray clinical facts noticed.

The future Medical Science should not be riddled, as unfortunately it is now, by pet theories or laboratory test-tube guesses; but with the aid of huge accumulation of facts positive (experimental and clinical) recorded by reliable authorities to seek the solution of all admittedly undiscovered functions of structures and tissues that make up the complex human organism. This is the only golden royal road to success in any science. We should never have any preconceived theory, but from facts and figures deduce conclusions logically. The existing vain speculations and patent phobia, without a sound conclusion arrived at by systematic reasoning and well-established facts; are deplorable in the domain of the healing art and science.

We should be thoroughly acquainted with the functions of all the tissues and members composing our body. Even in the vaunted light of our present knowledge how little we know of the nervous mechanism that governs the whole of our mysterious system, about the composition of ferments and about the cause of sleep.

These are some of the hitherto unsolved problems of physiology, which stare us in the face and stand so much in the way of rational treatment. These are a few of the manifold barriers that makes our present day treatment of diseases not much better than scientific quackery in most cases. We hope in the near future, the portals of knowledge will be wide open in these intricate phenomena. Osler says "that while we know little concerning the action of drugs, we put them into bodies the action of which we know less."

The physiological actions of the various internal secretions, particularly of the (so-called) ductless glands is Gordian knot for the future pathologist and that being cut, the therapist will have easy work to devise means for the cure of their ailments.

Medicine still remains quite an imperfect science compared to surgery. The task of bringing it to a precision seems stupendous and staggers our imagination; but Progress is the Watchward of Science to-day and we hope that soon we shall get to a stage of improvement, when like the surgical lancet our remedial agents will strike at the very root of our maladies and effect miraculous cures, which will astound the present day physicians and specialists.

With the approach of the hot weather, one would naturally expect an appreciable diminution in plague mortality, but contrary to our expectations in the United Provinces of Agra and Oudh, it has marvellously increased in number and virulence. Rat destruction, at any rate for the time being at least signifies more plague cases as the infected rat fleas become abundant in a nascent stage without habitations and

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DR. ROBERT MILLBANK, Fellow of the Academy of Medicine New York; Member, New York County Medical Society; Member of Society of Alumni Bellevue Hospital; Late Visiting Physician, New York Infant Asylum. Said in *The New York Medical Journal*, Nov. 16, 1896. "I gave a few years ago the results of about one hundred cases in my Hospital practice in which I prescribed NUTROLACTIS. I believe that when mother's milk is scanty and of poor quality, it restores the normal flow and quality, and causes a corresponding improvement in the digestion and nutrition of the infant. I have never seen any bad effects from s continued use to either mother or child."

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being thus free from the bodies of the dead rats attack more human beings than when they were feeding on the blood of the rats living. This seeming paradox explains the cause of rise of plague mortality in Jagadispur, (Punjab) where the crusade against rats has been for sometime past systematic and thorough. People are more willingly taking to inoculation in these Northern Provinces. Famine and plague seem to be reaping a rich harvest this season. We hope these parts will soon be better off.

Current Medical News.

THE PREVENTION AND CURE OF DISEASE.

Elsewhere we have reviewed the report of the Sanitary Commissioner with the Government of India, so far as it dealt with the most fatal diseases of the past year. Another section, probably the most satisfactory one, relates at length the operations which were carried out. With a view to their prevention, and the extent of the investigations made by the scientific officers of Government. With regard to plague, it is recorded that although few will be found to deny the validity of the proof that plague is carried from rat to rat means of the rat-flea, it is contended that the evidence that plague is carried from rat to man by means of the flea is inconclusive. The direct proof is certainly wanting; but all susceptible animals on which experiments have been tried can be infected through the rat-flea, and apparently this is the means by which the disease is spread among animals in nature. The rat-flea will bite man under certain conditions the very limitations of which seem to furnish additional evidence of the correctness of the Flea Theory in respect of man, because they explain satisfactorily facts of the epidemiology which are otherwise mysterious. Anyhow, to combat plague thousands of rats have been destroyed throughout India and more would have been but for the susceptibilities of the people, which have been considered perhaps a little too much. The Bombay Bacteriological Laboratory has worked at high pressure and we find that from January 1897, when the first doses of prophylactic serum were issued to medical men up to the close of the year under report, 6,321,578 doses have been despatched from the Laboratory, and that of these doses 5,754,044 have been issued to medical men in India. The number of doses in 1906 was only 176,651 as compared with 315,905 in the previous year—a fact which is ascribed to the greatly diminished prevalence of plague during 1906—for it is well known that the majority of the people are willing to resort to inoculation only when the disease is very severely epidemic among them. The decline has also been attributed to people having temporarily avoided inoculation in the hope that a less disagreeable method of protection from plague might be discovered by the Plague Research Commission, and it is said that now the results of the investigations of the Commission are known, there are signs that inoculation will be resorted to more frequently. Further experience of the use of the serum by a large number of medical men has served to confirm the opinion as to the great value of the method in reducing the case-incidence and the case-mortality from plague, and during the year under review no untoward result from inoculation was reported.

Concerning vaccination we find that the number of operations performed by the Department in 1906-07 was 9,080303 less than in the previous twelve months, but considerably higher than the total of any of the preceding three years. The total number of re-vaccinations was 7,38,509, some forty-seven thousand more than in the previous year. Taking the census population of 1901 and estimating the number of births during the year at forty per thousand of that population, the percentage successfully vaccinated was 42·62 of the total against 43·83 in the previous year and 42·46 in 1904-05. The percentage rate of protection, according to this very artificial calculation, varied from 73·61 in the Central Provinces and Berar and 69·05 in the Punjab, to 18·58 in Burma and 12·72 in Coorg. The total cost of the Vaccination Department was Rs. 13,45,072 and the mean cost of each successful case, two annas and seven pies. Sanitary works on an extensive scale were carried out in all provinces, but in Bombay it is recorded that progress in Municipal Sanitation in the Presidency was hampered by the ravages of plague, which embarrassed the financial position of most Municipalities to such an extent that many urgent schemes for water supply and drainage have had to be deferred. Excellent work has been done at the Central Research Institute at Kasauli, where the preparation of antivenene and curative sera was continued and routine bacteriological work in connection with the examination of specimens sent for diagnosis was carried out. The staff commenced an enquiry in connection with the etiology and mode of the spread of enteric fever in India, and in 1907 the enquiry into the causation, prevention and treatment of dysentery in the prisons and lunatic asylums of India, upon which Captain Foster, M. R. S. had been engaged, was placed under the control of the Director for the Institute. At the Bombay Bacteriological Laboratory the research work done by the staff included an investigation by the Director, Lieutenant-Colonel Bannerman, to ascertain the relative value of the constituents of the anti-plague serum; an investigation of the value of Dr. Brazil's curative plague serum; investigation into an outbreak of cholera in the Umarkhedi jail; into an epidemic of infantile diarrhœa in the Cama Hospital; into the life history and mode of tranmission of the spirillum of relapsing fever, and the like. The collection of snake venom was continued, 371 snakes being received during the year. The venom, after dessication, was sent to the Central Research Institute for the preparation of antivenene. At the Kasauli Pasteur Institute, 1,147 persons presented them-

selves for Anti-Rabic Treatment. Patient went from every province, from Kashmir and Ceylon, and of the total number only nine cases were unsuccessfully treated.

Special enquiries were carried out at the bacteriological laboratories, with reference to enteric, dysentery, malaria, blackwater fever, kala azar other subjects. From the chapters dealing with this special work we learnt that, with a view to obtain precise information regarding the distribution, life history, habits and identification of the rats of India, the collection of material for a comprehensive study of the subject has been begun. It was arranged by the Government of India that, the first steps in the matter should be taken by the Natural history Section of the Indian Museum, and accordingly Dr. Annandale, the Officiating Superintendent of the Museum, caused a pamphlet to be prepared by Dr. Hossack, of the Calcutta Plague Department, giving details of the methods of identification of the common species, with instructions as to the measurements to be taken, the preparation of skins and skulls the preservation and labelling of specimens, and the mode of despatch of specimens to the Museums. The pamphlet has been widely circulated among officers employed on plague duty and sanitary work in all provinces, and instructions have been issued to those officers to use the Natural history Section of the Museum in their enquiry, by collecting information and sending specimens. Dr. Hossack has made a special study of the rats of Calcutta, and the results of his work have been published in the Memoirs of the Indian Museum. Then, an enquiry is being made concerning the biting flies of India by Mr. Maxwell Lefroy and Mr. Howlett, the Imperial Entomologists, and with the object of enlisting the help of medical officers and others in the enquiry, a pamphlet on the subject has been prepared and will be distributed as widely as possible. In view of the possibility that cases of sleeping sickness may be imported into India from East Africa, it was necessary to ascertain whether the tsetse-fly which carries the disease occurs in India. Up to the time the Commissioner's report was issued, it is consoling to learn, no evidence of the presence of this fly in India had been obtained. At the suggestion of Colonel Bannerman, the Government of Bombay issued a circular to officers of the Forest and Salt Departments and to all Political Agents in the Presidency, asking for the names of those willing to collect biting flies and more than a hundred officers complied with the request. By the time the next report of the Sanitary Commissioner is issued, we hope to find much valuable information on a possibly important subject.

SHORT ITEMS.

The Health Officer of Rangoon, commenting upon the health of the various communities in the city in 1906, says that the well-known immunity of the Chinese from cholera is attributable partly to their universal habit of drinking only tea or boiled water, and partly to their occupations which do not bring the majority of them into contact with the riparian population to which class the cholera outbreaks are largely confined. Plague however, exacted a heavy toll of lives from the Chinese, and this is explained by its prevalence in the Taroktan quarter, the population of which includes about half the Chinese in Rangoon. The prevalence of plague in this quarter again is dependent upon its general insanitariness, for which the mode of life of the Chinese community is to a large extent responsible.

Burdwan has lost one of its foremost Ayurvedic physicians by the death, at the age of 76, of Kabiraj Harish Chandra Sen, which event took place a few days ago at Tribeni, where he had been removed in view of his approaching end.

The first consumptive ward in Bombay has just been opened by the Govenor of Bombay, Sir George Clarke, at the Adams-Wylie Memorial Hospital. It contains eight beds, six of which are now endowed.

The regulations for the prevention of the introduction of plague by sea which were imposed in the Ports of Orissa against vessels arriving from Tellicherry have been withdrawn.

Lieut.-Colonel Frenchman, I. M. S., Inspector-General of Prisons, in Burma, officiates during the absence on leave of Colonel W. G. King, M.B., C.I.E., I.M.S.

Major H. M. Earle, I.M.S., has been appointed a specialist in midwifery and diseases of women and children and has been posted to the third (Lahore) Division.

Surgeon-General W. R. Browne, C.I.E., I.M.S., having resigned his Fellowship of the Madras University, has been appointed an Honorary Fellow.

Lieut.-Colonel R. P. Frenchman, I.M.S., officiates as Inspector-General, Civil Hospitals, Burma, vice Colonel King, on leave.

Lieut.-Colonel F. F. MacCartie, I.M.S., is posted as Assay Master, Calcutta.

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2. Stimulates peristalsis and lubricates the entire intestinal canal. Constipation is thus effectually overcome.
3. Facilitates and hastens the digestion of all classes of food-stuffs both in the stomach and small intestine.
4. Maintains normal body nutrition by hastening and rendering more complete the assimilation of food in the form of finished products of digestion.

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Current Medical Literature.

MEDICINE.

THE OPSONIC INDEX IN RELATION TO TUBERCULOUS PERITONITIS.

Arthur H. White calls attention to the surgical cures of certain cases of tuberculous peritonitis by the flushing of the peritoneal cavity. In relation to this well known fact the author speaks of the recent work of Wright, who has shown that there is present in the blood a protective substance hitherto unknown, which he calls opsonin. To the presence of this substance phagocytosis is largely due. This investigator has also shown that in cases of local tuberculosis the blood contains less opsonin than that of normal individuals. The opsonic index may be raised by the inoculation of a tubercle vaccine. He has proved that in raising the opsonic index and keeping it steadily at the normal, or higher than normal by means of inoculation, ultimate complete cure of local tuberculosis will result. The writer believes that operations should still be performed in these cases. because they furnish the only or the best means of getting rid of the fluid poor in opsonin and of promoting the necessary exchange which occurs between the blood and the locally infected area. It will be well also to raise the opsonic index before operation by inoculation. The after-treatment should include blood examinations from time to time to determine the degree of the opsonic index.—[The Dublin Journal of Medical Science.]—Medical Record.

ALCOHOL IN PNEUMONIA.

Fock (Munchener Med. Wochenschrift, 1906, No. 44) gives a synopsis of the replies received from clinicisns in regard to the value of alcohol and alcoholic tonics in pneumonia. The responses vary—a number of physicians forbid alcoholic drinks in pneumonia, others give alcohol in every case, while the great majority prescribe same only in special cases. The replies are particularly interesting touching the question: "What effects do you expect from the administration of alcohol?" The majority of physicians replied that they prescribed alcohol for its stimulating effect on the heart and vaso-motor system, without, however, going into details. Some physicians claim that alcohol increases the activity of the heart and the tonicity of the smaller blood vessels. The author claims that disturbances of the circulation in infectious diseases are due to changes in the vasomotor centers which govern the circulation and become affected in general sepsis or pneumococcus sepsis, or are due to direct diseases of the heart or its pericardium. In either conditions alcohol has no distinct value and its efficacy as a stimulant to the heart muscle and nerves as well as the vaso-motor system has not been demonstrated. Alcohol may be employed to produce a temporary increased pulsation and is thus indicated on special occasions or emergencies but never as a routine stimulant.—N. A. Journal of Homœopathy.

VACCINATION.

The school board of Austin has adopted permanent regulations as proposed by the board of health of the city, requiring that all pupils and employes of the schools shall be vaccinated before the beginning of each annual session of the schools, or else present satisfactory evidence of having been vaccinated within the five preceding years. The following resolution and rules were adopted by the trustees:

The fact that smallpox exists in Texas practically all the year, and that the public schools are more or less exposed to it from time to time, render it proper that some permanent regulation be adopted for protection against the disease at all times. As the public schools are regarded as the potent agency in the spread of the disease, the board cheerfully complies with the suggestions of the board of health in taking the precautionary measures in vogue in the leading cities of the United States.

These rules embrace the main features of rules on vaccination in Boston, Providence, New York, Philadelphia, Atlanta, New Orleans, Louisville, St. Louis, Chicago, San Francisco and other cities in the United States, and are advised and approved by the board of health of Austin:

First—Before the beginning of each annual session of the schools and before the entrance of any pupil into the schools at any time during the session, all regular employes and pupils shall present to the school board satisfactory evidence of having been successfully vaccinated within five years next preceding the beginning of said session.

Second—In lieu of evidence of such successful vaccination said employes and said pupils may present other evidence of the necessary precaution for protection against smallpox, of the sufficiency of which the city board of health shall judge.

Third—If any employe or pupil is deemed unfit for vaccination, or presents evidence that vaccination will prove dangerous to his or her health, the action of the board in such cases shall be governed by the decision of the city board of health.

Fourth—Whenever any employe or pupil is deemed unfit for vaccination, or it is decided that vaccination will prove dangerous to the health of such employe or pupil, such employe or pupil shall not be excluded from school, unless smallpox actually exists in the city, or unless, in the judgment of the board of health, there is immediate danger of the spread of such disease in the city.

Fifth—The term employe as used embraces the superintendent, principals, regular and special teachers and all other regular employes of the schools, and in the case of janitors residing on

the school grounds or immediately adjacent thereto, it shall embrace the families of such janitors.

—:o:—

SURGERY.

RŒNTGEN RAYS IN THE TREATMENT OF EPITHELIOMA.

Dr. Edward Schiff, Professor of Radiology at the University of Viena, in summing up his lecture on the treatment of epithelioma with Rœntgen Rays at the Third International Congress for Electro-biology and Medical Radiology at Milan says:—

(1) The favourable effect of Rœntgen Rays on epithelioma is indisputable.

(2) The treatment with Rœntgen rays must not, however, be considered in a category by itself; it must rather be looked upon as an alternative or as an addition to treatment by other methods.

(3) There are obviously biological differences in the various kinds of epithelioma which have so far not yet been sufficiently explained pathologically and anatomically and on which the success of the Rœntgen treatment is dependent.

(4) To aid the effect produced by the Rœntgen treatment, small operations may be done and the cautery applied according to the nature of the case.

(5) In those cases in which no favorable influence is produced by the Rœntgen Rays, at the latest after the 4th or 5th sitting, this treatment must be discontinued, as little more is to be expected from it.

(6) The intervals between the single sittings must not be too long; a more active Rœntgen light—medium soft tube—with, of course, a careful covering of the healthy parts of the skin, is to be recommended.

(7) In the case of surgical operations a subsequent application of rays is eventually desirable.

(8) It is of an especial importance to lay stress on the fact that by the application of Rœntgen rays the patient is saved from an operation, and the result produced by the Rœntgen treatment is not only equally good as regards the cure but much better as regards the subsequent appearance.—(Lancet).

TREATMENT OF SEVERE BURNS.

Dr. Galand of Cambrai, has had occasion to attend to the victims of severe burns from the sugar-refineries and glassworks and from the coal mines of the Donai District and he recommends the following formula, which painted over the whole of the damaged surfaces confers a delightful sensation of coolness and subdues the pain. This in his opinion is due to the protective qualities of the preparation which forms a sort of varnish replacing the missing epithelium.

Acid Carbolic	gtt. xxv
Powdered Neutral dextrine	℥ iii
Tinct. of Socotrina Aloes	℥ ii
Camphorated Spirit (weak)	℥ i
Pure Nitrate of lead	grs. xi
Tannin	grs. xv.
Aqua Laurecerecii	℥ v

To make the mixture perfectly homogeneous the dextrine must be reduced to an impalpable powder. It is rubbed down in small quantities in the mixture of Tinct. of Aloes and camphorated spirit. Lastly the cherry laurel water containing the nitrate of lead and tannin, is added.

THE PREVENTION OF SYPHILIS.

The practitioner is occasionally asked how the danger of syphilitic contagion may be obviated. There are, perhaps, some who would refuse to answer the question or who would reply in the words of John Sintelaer: "The only preservative against catching the venereal is to keep the finger out of the red-hot frying-pan." Professor Metchnikoff, Pasteur Institute, Paris, gives the sanction of his name to a calomel ointment which he recommends as a preventive of syphilis. The formula of this ointment is—33 grains of calomel to 67 grains of lanolin and 10 grains of vaselin. It is efficacious, only when employed during the first few hours after contact with syphilitic virus, and it is useless to apply it in cases which first come under observation some days later. Professor Metchnikoff and his colleagues have been endeavoring to find an alternative treatment suitable for the late cases, and they think favorably of atoxyl, an arsenical preparation, which has been used successfully by P. Koch and others in the treatment of sleeping sickness. Experiments have shown, that a monkey inoculated with syphilitic virus and subsequently treated by the subcutaneous injection of atoxyl, does not develop syphilis. It is stated, that a single injection of atoxyl into a monkey, delayed until the fifteenth day after the inoculation of the syphilitic virus, prevented syphilitic infection. The dose of atoxyl necessary to produce the preventive effect on man is not settled. In two observations made on men by Professor Metchnikoff and Dr. Salmon, Paris, two injections of atoxyl, 50cg. each, were given, at an interval of two days. No signs of poisoning or intolerance were observed. No signs of syphilis supervened, but, as it was not known whether infection had really occurred in these cases or not, no conclusions as to the preventive effect of atoxyl on syphilis could be based on them.

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OBSTETRICS.

RUPTURE OF THE UTERUS, ESCAPE OF FETUS INTO ABDOMINAL CAVITY; OPERATION AND RECOVERY.

A. P. Hanie, M.D., Hartwell, Ga.—In the early morning of November 22, 1902, I was hurriedly summoned to attend a case of labor, and as I had called several times previously to see the patient on the same errand of expectancy, and in each instance was disappointed, I turned over to take my morning "nap." Before I had finished, however, a second messenger came, assuring me that the woman was in labor and believed to be dying. Awakened by such an exclamation, I hurried to the patient's home, which was but a few blocks away. On entering the room, I found the patient out of bed upon her knees on the floor, and with each pain endeavoring by great effort to deliver the child.

I had obtained this bit of history: she was thirty-four years of age, four feet seven inches tall, little more than a dwarf. Otherwise she was physically normal, no visible deformoity existing, and her weight, when not pregnant, was ninety pounds. This was her fourth pregnancy. Two of the former were terminated between the sixth and seventh months, and delivery was only possible after craniotomy had been resorted, to, and the third pregnancy terminated at or near the eighth month and in order to save the mother embryotomy was performed. She knew she could not by normal labor be delivered of a living child, and so informed me.

With these facts in mind I had the bowels as thoroughly emptied as possible, and the vulva shaved, scrubbed and aseptically prepared, and covered with pads of gauze wet in a bichlorid of mercury solution. In the meantime, I assured myself of the normal condition of the patient's heart, lungs and kidneys. She was anesthetized, and an examination made. Inspection disclosed a curious state of affairs. The abdomen pouched outward, the fundus extending directly forward some ten inches, the protrusion resembling an exaggerated umbilic l or ventral hernia more than a pregnancy.

The abdominal and uterine walls were remarkably thin, in fact so thin that the fetus could be easily felt and the extremities could be distinguished with ease, there being no trouble to tell foot from hand. Therefore, error in diagnosis was impossible.

I prepared my hands for the vaginal examination very carefully, and again gave the vagina a thorough douching and scrubbing with a long-handled jeweller's brush, being very cautious not to injure the presenting parts while so doing. I found the cervix was only partially dilated and the membranes still intact. The presentation was normal, but she had a contracted pelvis, whose conjugate diameter was less than three inches. By this time the patient had regained consciousness, so I informed her and the family of my findings and advised her to remain in bed and to be perfectly quiet, and to offer no assistance whatever to the pains, as delivery by them was utterly impossible; that labor had progressed as far as possible under the existing condition, and that she had the alternative of two extreme measures—Cesarean section or embryotomy; the former offering life both to mother and child, while in the latter the child must be sacrificed. I insisted that the family gave me their decision without delay. She was now in great pain, and we found it impossible to keep her quiet and in bed. Against my wishes and advice, she would get up, and when the next pain came there was a great effort at delivery. She taxed every muscle to its utmost, and when the pain ceased she must have thought she was delivered, for she asked to see the child. There was the complete cessation of all pains, and a change in the contour of the abdomen. The patient grew very faint, was nauseated, and quickly developed a condition of profound shock. There was some hemorrhage from the vagina. I had her placed on the bed and prepared my hands as quickly as I could to make an examination. I found that the uterus had ruptured and through the anterior wall the fetus and membranes had escaped into the abdominal cavity. I cleared the uterus of all clots and gave her large doses of ergot, morphin and atropin subcutaneously. The uterus contracted partially and controlled the bleeding to some extent. I secured assistance and removed the fetus and membrances by an abdominal section. The woman recovered.

—:o:—

PATHOLOGY.

ARTERIAL BLOOD-PRESSURE, THE HEART, AND DRUGS.

Judging from methods of treatment which are very frequently employed there can be no doubt that medical men pay too little attention to the condition of the blood-vessels in treating cardiac disorders, failing to recognize in some instances that the cardiac irregularity is due to changes in vascular tone, or that the feebleness of the heart is the result of high arterial pressure which causes it to expend more energy than it is capable of doing without becoming exhausted. Attention is called to this matter once more by the publication of an article by Dr. Starling in the London Lancet of September 29, 1906 in which he cites certain cases of cardiac disease in which the therapy of the case was guided by the use of the sphygmomanometer, it being shown that the cardiac condition or feebleness depended upon the vascular state more than upon any lesion of the cardiac valves. This point, which is emphasized so satis-

factorily by Dr. Starling, is certainly of primary importance, for many cases of valvular disease with ruptured compensation owe their ruptured compensation less to the valvular change than to the arterial state. In some instances the tension is best reduced by nitroglycerin, or other, more slowly-acting, nitrites. In others the iodides give more satisfactory results, and in still others it may be necessary to raise arterial tension by the anministration of drugs like digitalis and strychnine, which tend to increase arterial tone. In certain other cases the diminution in the quantity of food and drink which is ingested by the patient is a very important factor for consideration. There can be no doubt that those who overload the digestive apparatus throw upon the heart, directly and indirectly, and upon the blood-vessels as well, unnecessary burdens, and furthermore, the production of imperfect metabolism which so often occurs as the result of overeating tends to raise arterial pressure and interfere with the function of the liver and kidneys, which glands are so important in connection with the maintenance of a normal circulatory state.

THE OPSONIC INDEX IN DISEASES.

In Harper's Magazine appears an article by Professor R. K. Duncan, University of Kansas, on the opsonic index and the injection of opsonins. After describing the theory of opsonins, and mentioning the successful application of opsonins in acne and furunculosis, he acknowledges that this method of treatment has not been successful in systemic tuberculosis, though it gives a new certainty to the diagnosis of the early stages of that disease. "On every side," he tells us, "it is seen that the attitude of the educated and intelligent part of the medical profession towards the opsonic philosophy is one of waiting, of suspended judgment and extreme respect. Dr. Wright's laboratories in London are crowded with students from every quarter of the civilized world—from Russia and Sweden to India and Japan. American hospitals have been importing his assistants to demonstrate the new treatment. The Toronto General Hospital as already established a department of opsonic inoculation under the direction of Dr. W. G. Ross, one of Dr. Wright's most brilliant disciples. A great American firm of manufacturing chemists has sent over a member of its staff to study under Dr. Wright, so that, as soon as the opsonic treatment becomes general it may be in a position to supply physicians with the dead microbes as inoculating materials. Hospitals and schools that claim to be up-to-date can hardly afford to ignore this seemingly valuable branch of research work."

THERAPEUTICS.

MERCURY INJECTIONS.

In the Journal A. M. A., for August 3, William S. Gottheil states that he has used the intramuscular method of mercurial administration almost exclusively in public and in private practice since early in the nineties, and either personally or under his direction, between one and two thousand injections have been given annually for a number of years past. The rapidity of action of the drug when administered hypodermically is surprising, especially on the earlier and acuter manifestations of luetic intoxication. The patient suffering from violent cephalalgic or osteocopic pains obtains relief in a very few hours objectively there are distinct signs of improvement by the second day, or at most by the third; general eruptions commence to fade, and broken down lesions, primary, secondary or tertiary, show decided marks of retrogression. On the later lesions, the action of the drug when administered in this way is of course somewhat slower, but it is still very much more rapid than when given by the mouth. The more obstinate and relapsing of the later manifestations, such as the palmar and plantar syphiloderms, mucous patches, etc., react, and sometimes with surprising rapidity, though they have proved entirely recalcitrant, to mercury administered by the mouth or even by inunction. He states as his positive belief that the intramuscular injection of the insoluble mercurials affords a greater certainty of the nonappearance of active symptoms than the ordinary methods. He has several times given as much as 20 drops of the suspension, or two grains of the salicylate of mercury weekly, with rapid absorption and only beneficial effects. Properly administered the injections are almost painless. If the right site in the depths of the gluteal muscles is selected, the skin made thoroughly cold with ether, the puncture and the needle withdrawal made rapidly, though the actual injection of the suspension be done slowly, the pain is an entirely negligible factor. Indurations after the injections do not occur as a rule, and he believes the dangers of embolism of the lungs after the injections to be almost illusory. In the Medical Review of Reviews, for July (Wien. Klin. Wochenschr) Freund discusses the advantages and disadvantages of the insoluble preparations of mercury. As to the shape assumed by the injected mass, and the rapidity with which absorption takes place, it was found that the metal did not assume a marked spindle form, but rather an oval disk. Small particles of the metal become detached from the original mass and wander into the surrounding tissue. The absorption appears complete from the ninth to the tenth day, the greatest amount taking place during the first four days. To obtain a practically continuous and even absorption of the metal, it seems proper to give the injections (of salicylate of mercury) at intervals of about eight days.

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☞ Extremely useful in **Rickets, Scrofula, General Debility, Anæmia, Weak Heart, Neurasthenia,** and Convalescence from illness such as **Pneumonia** or **Influenza.**

☞ Unsurpassed as a **Strengthening Restorative in Diseases of the Lungs.** Has a very agreeable taste, and is taken with the utmost relish even by Children.

FREE FROM BACTERIAL GROWTH. UNCHANGED BY KEEPING.

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ONLY SUPPLIED IN FLUID, NOT IN CAPSULES OR OTHER FORMS.

Infants - - Take from Half to One Teaspoonful twice a day in milk.
Children - - „ One or Two Dessertspoonfuls daily, either pure or mixed with any convenient liquid.
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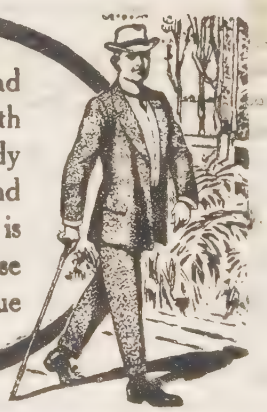

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Acts as an intestinal antiseptic, as well as a purgative, eliminating germs and preventing auto-infection (ptomaine poisoning). This action is solely due to sodium sulphite contained as a fixed compound in the water.

Is acceptable to nearly all patients, as it never produces nausea, weakness nor thirst. In its use purgation is not followed by constipation, as is unfortunately and commonly the case with other purgative waters.

Does not weaken; it produces a tonic effect, stimulating the whole system; appetite is increased, sallowness and foulness of the breath disappear, headaches and vertigo vanish.

Is the only purgative water the use of which is unaccompanied with disadvantages in genito-urinary diseases.

Relieves women suffering with hemorrhoids and diseases of the uterus and ovaries, by reducing the congestion of the pelvic viscera.

Re-establishes the normal flow of bile, and is thereby a prophylactic in cases of biliary colic, due to the passage of biliary calculi.

Is indicated in cases of flatulency, bilious attacks, eczema, glandular enlargements and scrofula.

Benefits chronic nervous conditions, atony of the stomach and intestines, certain forms of diseases of the heart and circulatory system, chronic cases of skin affections and certain diseases of the lungs.

If used regularly alone, will often suffice in cases of influenza, diarrhœa, malaria, gastric and febrile disorders and infectious diseases by enabling the engorged, digestive, circulatory and lymphatic systems to regain their normal condition.

Acts in trifling doses. One small wineglass taken on an empty stomach immediately before breakfast produces a well-marked laxative effect in an adult. The dose for women or children should be reduced to one-half or one-third.

Is now considered an indispensable mineral water, especially in large city practices where it is important to husband the patient's strength, under penalty of their developing anæmia, or breaking down under the nervous strain and becoming neurasthenics.

Is cheapest because best. It is now prescribed by the leading physicians and stocked by all first-class retail druggists.

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A sample bottle will be sent free to any Physician if he will pay express charges.

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EPIDIDYMITIS.

In the New York Medical Journal for July 27, Julius J. Valentine asserts concerning gonorrheal epididymitis, that no patient treated by irrigations for gonorrhea acquires epididymititis unless the epididymis is involved when he presents himself for the first examination; the development of epididymitis is then exceptional. Galvanism yields brilliant results in the inception of this complication. Pain is promptly arrested, and the swelling soon recedes. As regards local applications, a slight modification of the ointment of Professor Leopold Casper is recommended. It consists of ichthyol 25 parts, guaiacol five parts, mercurial ointment 10 parts, petrolatum and wool-fat aa ad 30 parts. This ointment is thickly spread upon four layers of gauze cut of a size to completely cover the scrotum containing the inflamed epididymis; over the gauze a layer of cotton is placed; this is enveloped with a sheet of oiled silk and all firmly compressed with a strong suspensory bandage, selected to thoroughly compress the scrotum, and hold it immovable against the ascending pubic rami Painting the scrotum with silver nitrate, tincture of iodin, guaiacol etc., have been discarded, and the use of ice applications is condemned. The time honoured flaxseed and tobacco poultice is still recommended when the scrotum is extensively involved in the inflammation as shown by intense reddening and such hyperesthesia as to prevent manipulation of any kind. In some cases of hyperacute epididymitis heat is not borne and even increases the suffering. Then the ordinary lead and opium renders excellent service. When inflammation of the epididymis has not extended to the cord, or involves only its lower third, Fricke's strapping is the most effective method of treatment. When tense edema accompanies epididymitis, or when local hyperemia is very great, relief and aid to treatment are readily obtained by numerous slight punctures into the superficial layers of the scrotum.

ALCOHOLISM.

Bolton (British Medical Journal) urges that the family doctor should set himself to treat alcoholism just as he would any other disease, with the full expectation of producing a cure. This has been rendered easy and feasible by the introduction of the hypodermic method of treatment. This method renders it certain that the patient gets the drug and that it enters, not the stomach only, from which it may be at once expelled, but the blood and general circulation. The regular visits of the doctor are also very important. In the acute stage of alcoholism, a very useful drug for hypodermic injection is apomorphine. In the excitment of delirium tremens a small injection of this drug will at once produce a calm, the patient will yawn, and is fast asleep is almost before he can be got to bed. This sleep is sometimes preceded by vomiting. As the patient is liable to faint if sitting up, the injection should be given when he is in a recumbent position. Usually about four hours' sleep is thus obtained. But apomorphine is no remedy for alcoholic craving: while a good way of commencing treatment, it is only temporary. The drugs to be relied on to do away with the craving for alcohol are strychnine and atropine; they should be kept in solution and the injections given in to the biceps muscle twice or three times a day. The injections may cause some dryness of the throat and disturbance of accommodation; tablets of potassium chlorate will remedy the former and spectacles may have to be worn for the latter. After the patient has regained health and vigor, which will be in about two to four weeks, the injections may be cut down to once a day for three weeks longer, after which their frequency may be still further reduced. The patient should be supplied with a pick me up, to be taken when depressed or when the craving for alcohol is felt. A good one is four drops of tincture of capsicum, with fifteen drops of the liquid extract of cinchona. Careful attention must be given to the general health. Albumin in the urine is not a contraindication to the treatment; indeed, it often disappears under the treatment.

INJECTION OF MERCURY IN SYPHILIS.

As a result of his observation Lambkin (Lancet) holds that the substitution of palmitin, which is a soluble constituent of the organism, as a vehicle for the suspension of mercury, in place of the insoluble substances hitherto in use, and the success which has followed the use of camphorated creosote as an analgesic, begin a new era in the treatment of syphilis by intramusuclar injections of insoluble salts of mercury: for, in the first instance, one great objection to the treatment—i.e., the introduction of insoluble foreign bodies into the circulation—is done away with, and in the second, pain has been practically abolished, even in the case of calomel.

Palmitin is a neutral fat derived from palm-oil, having the same chemical composition as the palmitin of the human system it is an ether glyceride of palmitic acid; it is therefore easily saponified in the fluids of the organism, being converted into a soluble alkaline palmitate and glycerinin; thus it enters into the circulation not as a foregn body like all other substances hitherto used as vehicles. It is non-irritant and non-toxic; it is not so easily oxidized as the other components of human fat; and its melting point can be raised and lowered with the greatest facility. Pure palmitin, which is rather difficult to obtain, is a snowy-white, flocculent powder. The following is the formula for the injection "cream" used by the writer: Mercury, 10 grams (or calomel, 5 grams); equal parts of absolute creosote and camphoric acid, 20 cubic centimeters; plamitin basis to 100 cubic centimeters. Ten minims of the above contain one grain of mercury, or one-half grain of calomel.

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Correspondence

Audi Alteram Partem.

PLAGUE CONDITIONS IN THE ALLAHABAD DISTRICT.

To the Editor, The Indian Lancet.

SIR—The period which is generally most productive of Plague in Allahabad and District is now drawing to a close, and it is interesting to compare the incidence of evil during this year with that of former seasons. This year presents the lowest records of any since Plague has visited this region. Last year the mortality in Allahabad City was bout 1,400 and 400 deaths occurred during the month of March alone. During this year, to date there have only been 112 cases, in the whole of the Allahabad District, of which the City has only been responsible, for about 12. The collective returns show that this has been an exceptional year throughout India, and it remains to be seen how far the operations at present in force are reponsible for this.

Special efforts have been made in the course of the year to familiarise people with the efficacy of anti-plague inoculation. At first there was considerable opposition; but in October last Major Chaytor White, I. M. S., Chief Plague Officer, United Provinces, inoculated the Collector and several leading members of the Indian community at a public meeting. The impetus thus afforded has not been without effect, as altogether some 3,500 persons have already been inoculated. As regards the destruction of rats, over 10,000 a week are at present being caught and precautions are taken to prevent the escape of possibly infected fleas from rats when caught.

Yours etc.,

PITT.

MADRAS MEDICAL COLLEGE.

To the Editor, The Indian Lancet.

SIR,—The Madras Government recently sanctioned a grant of Rs. 1,70,000 for an extension of the Madras Medical College. The work has already been commenced, and it is hoped that the new building will be completed by April next year, when the Physiological and Hygiene Laboratories will be located in it. The new wing will be two-storied, 180 feet long by 115 feet wide. There will be a laboratory on each floor, in addition to an operating room, and a theatre upstairs. On the ground floor there will be a store-room attached to the laboratory and also a retiring-room and two other rooms. The building of which Mr. G. S. T. Harris is the architect, promises to be a handsome structure.

Yours etc.,

A. M. S.

MADRAS CIVIL ORPHAN ASYLUM.

To the Editor, The Indian Lancet.

SIR,—The Madras Civil Orphan Asylums were honoured by an informal visit the other day from Lady Lawley, who accompanied by her sister, Mrs. Nelson, and attended by Captain F. F. Elwes, I. M. S., arrived at the Asylum premises by motor-car. Her Excellency was received on alighting by Lady Benson and the Rev. C. F. Breay. A thorough inspection of the institutions commenced with a visit to the Industrial class under Mrs. Drink water, Superintendent of the Female Asylum. Her Excellency and Mrs. Nelson were much interested in the cutting out and needlework of the girls and made many kindly inquiries as to their progress and capabilities as juvenile sempstresses.

Yours etc.,

W.

THE INDIAN MEDICAL SERVICE.

To the Editor, The Indian Lancet.

SIR,—In connection with the study leave of the officers of the Indian Medical Service it has been ruled that the minimum period of leave granted, solely as study leave, shall be six months. Time spent on the journey to and from India by an officer whose study leave is not combined with any other kind of leave will reckon as study leave, but the allowance will be granted during the period of study only. An officer whose study leave is combined with any other kind of leave will be required to retain a balance of other previously sanctioned leave sufficient to cover his return journey to India.

Yours etc.,

E. H.

PLAGUE IN RAJPUTANA.

To the Editor, The Indian Lancet.

SIR,—Plague is raging at Jeypur City and the usual panic and exodus have occurred there amongst the Hindu community the inhabitants scattering in all direction. Numbers have fled hitherto into Delhi City, which, beyond two recent suspicious cases, has so far a clean bill of health as regards plague, though it is prevalent outside, in Delhi District.

Yours etc.,

J. J. C.

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THE GOD OF SMALL-POX.

A Japanese Superstition.

To the Editor, The Indian Lancet.

Sir,—In the days gone by, when vaccination was still unknown in this land, it was customary with Tokio folk, whenever small-pox was rife to go institute a sort of general festivity called hosomatsuri or small-pox festival, superstition ascribing to it an enchanting virtue against the spread of the disease. Modern people, who scarcely know the nature and scope of this antiquated institution will be interested to hear what this practice was like, and that it has now been revived in a section of the small-pox ridden district of Tokio. The method of the festival is thus: Those infested with or apprehensive of small-pox make a sort of table 4 feet by 2 feet, which covering it with red cloth, they deposit in the parlour. Upon it they heap large bags of rice, on top of which a red gohei (peculiarly cut paper, considered by the vulgar to be sacred) is placed. This forms a sort of temporary shrine before which the family kneel and worship for twelve days, after which period all the rice and other articles and offerings are cast away either in the river or by the roadside to be touched only by dogs and mendicants. Simultaneously with this the family, especially those infected with small-pox, bathe themselves in red-coloured hot water, which is produced by boiling red beans. The special feature of this practice is the redness of colour which characterises almost forming everything forming part of the festival. For twelve days, which is the term of the festival, people use red-coloured towels, are dressed in red kimono and receive no gifts which are not rendered prominent by red. They keep their person as clean as possible, women having their hair down in a clean unoiled state. Besides, they observe the strictest temperance and abstinence from all impure thoughts or deeds. The idea of this peculiar institution would appear to be that the god of small-pox stays for twelve days in one family; so that during his short sojourn, they must coax and humour him as much as possible that it may not leave any disastrous effects behind him.

Yours etc.,

S. W. K.

DANGERS OF CHLOROFORM.

To the Editor, The Indian Lancet.

Sir,—Dr. T. Freyberger, the London Country Council pathologist lecturing before the Medico-Legal Society, said that choloroform was responsible for five times as many deaths as any other single anæsthetic Out of seventy-four cases analysed, twenty deaths occurred before the operation was begun, usually on account of a too great amount of chloroform being suddenly inhaled during the second or excitable stage of anæsthesia. In thirty-two cases deaths occurred during the operation, seventeen of these from choloroform. In eight cases death came after the operation was finished. Dr. F. W. Hewitt, the well-known anæsthetist said that it might be contended that a large number of the deaths from anæsthesia are absolutely preventable, and that the view that a certain percentage of fatalities must occur is erroneous. What is needed, according to Dr. Hewitt, is a more thorough system of training for medical students, so that every hospital patient may fall into the hands of a skilled anæsthetist.

Yours etc.,

W. G. L.

CHOLERA AND SMALL-POX IN CALCUTTA.

A Rising Death Rate.

To the Editor, The Indian Lancet.

Sir,—The figures of the mortality in Calcutta from cholera and Small-pox continue to show a steady rise. Up to Saturday there were 252 deaths from cholera, the extreme southern wards of the town being those most chiefly affected. There were 209 deaths among Hindus and only 39 among the Mahomedan community, besides 12 deaths in the port. These compare with 204 deaths recorded in the previous week.

There was an increase in the deaths from small-pox as well, the mortality for the week being 31 as compared with 20 the week before, or 11 deaths more.

Yours etc.,

C. W. S.

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DEATH OF COLONEL DYSON.

A VALUABLE MEDICAL OFFICER.

TO THE EDITOR, THE INDIAN LANCET.

SIR,—The many friends of Lieutenant-Colonel H. J. Dyson, I. M. S., will regret to learn of his death, which took place at the General Hospital.

The deceased gentleman, who was a son of the Rev. Dyson, received his medical education at St. Mary's Hospital, London. He had a distiguished medical career as a student, and eventually took his Fellowship of the Royal College of Surgeons. After passing the Indian Medical Service examination, Dr. Dyson was posted to Burma, and saw active service in the Burmese campaign. From Burma he was sent to India as Deputy Sanitary Commissioner of the Punjab and eventually was transferred to Calcutta as Sanitary Commissioner of Bengal as well as Professor of Hygiene at the Calcutta Medical College. Three years ago, owing to ill-health, he gave up his office Sanitary Commissioner of Bengal and went Home to recruit his health. On his return from England, he was posted to Bhagalpore as Civil Surgeon, and after about two years he was transferred to Hazaribagh in the dual capacity of Civil Surgeon of the Station and Superintendent of the Jail. While at Hazaribagh he was more less an invalid, but despite that he took a keen interest in the jail, with the result that during the short period he was in charge the jail profits almost doubled. He was more than once advised by his friends to return to England for a long rest and change, but remained at to his post and continued his daily duties until he was unable to leave his bed. In December last he was married atHazaribagh to Miss Craven. About a month ago Colonel Dyson was compelled to come down to Calcutta for treatment, and on the journey by push-push from Hazaribagh to Giridih he had a very narrow escape from death by lightening, three of his coolies being struck dead while a number of others were more or less injured. On arrival here he was removed to the General Hospital where it was found that he was suffering from digestive troubles. Under Colonel Pilgrim's care he improved slightly but latterly his illness was complicated by pneumonia which eventually carried him off at the comparatively early age of forty-eight.

The funeral took place in the Military Cemetery at Bhowanipore, Colonel Dyson being buried with full military honours All the officers of the Indian Medical Service now in Calcutta attended as well as a very large number of other medical gentlemen.

Yours etc.,

E. H.

RANGOON COURT-MARTIAL.

AN INSUBORDINATE MEDICAL OFFICER.

TO THE EDITOR, THE INDIAN LANCET.

SIR,—At a District Court-martial here, fourth class Assistant Surgeon P. E. Knyvett Hoff, I. M. S., was found guilty on two charges, i.e., neglect to the prejudice of good order and military discipline, in that when ordered by Captain N. E. Harding, Royal Army Medical Corps, on the 4th of February, to put certain letters over latrines in the station hospital he used insubordinate language to the said officer. The accused was sentenced to be reduced in the list of his rank as if his appointment bore date 27th February, 1906.

Yours etc.,

R. F.

LADY MINTO'S NURSING ASSOCIATION.

PROGRESS OF THE SCHEME IN BURMA.

TO THE EDITOR, THE INDIAN LANCET.

SIR,—No time has been lost in getting into working order in Burma the provincial branch of Lady Minto's Nursing Association. The two nurses allotted to Burma have arrived and two others are expected shortly. When work is found available for a larger number the staff will be increased to meet the requirements. The two head-quarters of the Association are at Rangoon and Maymyo. The initiation of the scheme entailed much labour and arrangement, and thanks are due to Lady White, President of the Association in Burma, who has taken the keenest interest in the undertaking, for the devotion and labour she has expended upon it.

Yours etc.,

C.A.P.

Wanted known, that a Dispensary, where all medical and surgical accessories are available has been opened at 3, Wellesely Street, under the name of Ellwood & Co. Dr. Das attends daily.

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Piperazine. Freely dissolving urinary deposits, is promptly eliminated by the kidneys, and perfectly harmless. Strongly recommended in all cases of uric acid diathesis.

Sublamine. A preparation containing Mercury Sulphate and Ethylenediamine in chemical combination. By the presence of Ethylenediamine the irritating action to the skin is entirely avoided, and, what is equally important, a most phenomenal penetrative power is secured for the metallic disinfectant, inasmuch as the presence of Ethylenediamine prevents the coagulation of the albuminous substances of the skin usually produced by metallic agents, and thus permits of easy and deep penetration of the Sublimate without any inconvenience. Recommended for thorough hand disinfection. [of Berlin.
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Urotropine. A valuable urinary antiseptic and uric acid solvent, very efficient in all suppuratory diseases of genito-urinary tract, pyelitis, cystitis, with ammoniacal decomposition of the urine, phosphaturia, and also in gouty and rheumatic affections, where active elimination of uric acid and the urates is required. Highly recommended in typhoid bacteriuria as a prophylactic against the spread of typhoid fever.

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Reviews of Books.

"First Aid" to the Injured and Sick. By F. J. Warwick, B.A., M.B. M.R.C.S. &c. and A. C. Tunstall, M.D., F.R.C.S., Edin. Fifth Edition Revised and enlarged. 30th Thousand Publisher :—John Wright and Co :—Bristol.

It is a most useful and handy book on advanced ambulance. The few pages concisely contain an outline of human anatomy and physiology, then proceeds to describe the application of bandages and extemporised dressings. Then follow several most valuable chapters on urgent injuries, illnesses and poisoning. The book is most elaborately illustrated.

Government Medical Notifications

INDIA.

Third grade Assistant Surgeon, Feroze Shaw H. Gandhi on plague duty at Peshawar was relieved of his duties on the forenoon of the 13th March 1908, and ordered to poceed to Parachinar, where he reported himself on the afternoon of the 16th March 1908 and placed on plague duty there until further orders.

Assistant Surgeon Ishan Tosh Mittra, attached to the Victoria Hospital, Bharatpur, is granted privilege leave for 2 months with effect from 11th March 1908.

BENGAL.

Major R. H. Maddox, I.M.S., Superintendent of the Arrah Jail, made over charge of the Jail to Captain T. H. Delany M.D., I.M.S., on the afternoon of the 18th March 1908.

Assistant Surgeon Kula Chandra Guha made over charge of the Barasat Jail to Assistant Surgeon Joy Krishna Gupta on the forenoon of the 25th March 1908.

Major E. A. R. Newman, I.M.S. Superintendent of the Ranchi Jail made over charge of the Jail to Major R. H. Maddox, I.M.S., on the forenoon of the 23rd March 1908.

Babu Jayanta Rao, third grade Assistant Surgeon, is appointed as a House Surgeon in the Mayo Hospital, Calcutta, vice third grade Assistant Surgeon Babu Saurindra Kumar Mazumdar, transferred.

Babu Dhiraj Mohon Sen, third grade Assistant Surgeon, employed in Calcutta to train the police in First aid to the injured and in ambulance work, is appointed to the Siliguri Subdivision and Dispensary, in the district of Darjeeling, vice third grade Assistant Surgeon Babu Satish Chandra Das, transferred.

The services of Assistant Surgeon Satish Chadra Das, of the Siliguri Subdivision and Dispensary, Darjeeling district, are placed at the disposal of the Commissioner of Police, Calcutta, for the purpose of training the police in First aid to the injured and in ambulance work, vice third grade Assistant Surgeon Babu Dhiraj Mohon Sen, transferred.

Babu Debendra Nath Hajra, second grade Assistant Surgeon is appointed to do supernumerary duty in the Medical College Hospital, Calcutta, until further orders, with effect from the afternoon of the 9th March 1908.

Major B. R. Chatterton, I.M.S., Civil Surgeon, Serampore, is appointed to act as Civil Surgeon of the 24-Parganas and Medical Inspector of Emigrants (Colonial Emigration), during the absence, on leave, of Lieutenant-Colonel E. H. Brown, I.M.S, or until further orders.

Captain H. B. Foster, I.M.S., on special duty in connexion with plague in Bihar, is appointed temporarily to act as a Civil Surgeon and is posted to Serampore.

Captain A. T. Gage, I.M.S., reported his departure from India on leave on the 15th March 1908.

CENTRAL PROVINCES.

Third grade Civil Assistant Surgeon Trimbak Balwant Bhanagay, Assistant to Civil Surgeon, Akola, held temporary charge of the Akola City Dispensary, in addition to his own duties, from the 26th November to the 15th December 1907, both dates inclusive.

BURMA.

Privilege leave to the extent due combined with fourloug so as to make up a total period of one year and two months is granted to Major C. C. S. Barry, I.M.S., officiating Civil Surgeon, Rangoon, with effect from the 26th March 1908, or the subsequent date on which he may avail himself of the privilege leave.

The following appointments are ordered in the Medical Department :—

Major J. Penny, D.P.H, I.M.S., is appointed to officiate as Civil Surgeon, Rangoon, in place of Major C. C. S. Barry, I.M.S., proceeding on leave.

Captain A. Whitmore, M.B., I.M.S., is appointed to officiate as Junior Civil Surgeon, Rangoon, in place of Major J. Penny, D.P.H., I.M.S., appointed to officiate as Civil Surgeon.

Third Grade Hospital Assistant, No. 225, Edward Doss Pillay relinquished charge at the Civil Hospital Mogaung, Myitkyina District, on the afternoon of the 6th March 1908, and assumed charge at the General Hospital, Mandalay, on the forenoon of the 12th March 1908.

Third Grade Hospital Assistant, No. 296, K. K. Ghose relinquished charge at the Police Hospital, Myitkyina, on the forenoon of the 15th March 1908, and assumed charge at the Civil Hospital, Mogaung, Myitkyina District, on the afternoon of the 17th March 1908.

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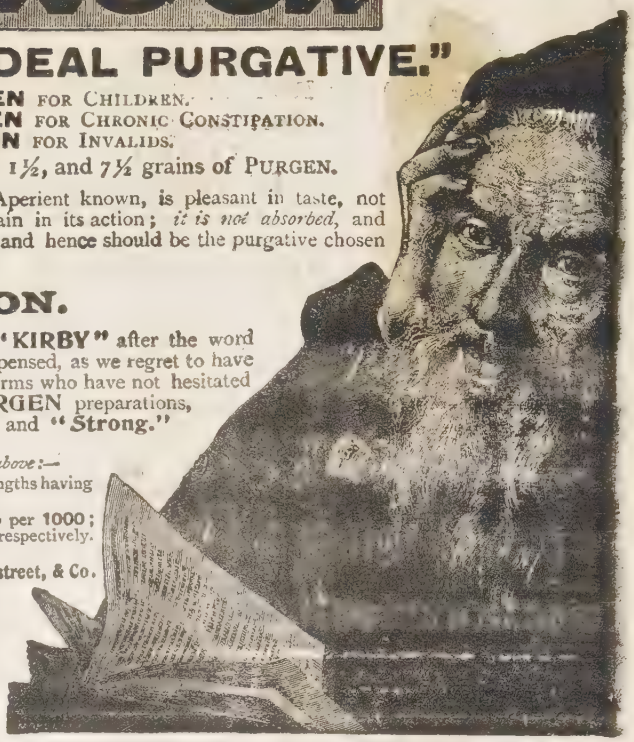

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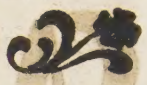

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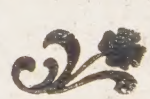

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